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THE FAR EASTERN REVIEW

Engineering
Finance ❋ Commerce

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JAPAN'S DEMANDS ON CHINA

From the Point of View of China and Treaty Powers

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COMMERCE :-: ENGINEERING :-: FINANCE

VOL. XI. SHANGHAI, APRIL, 1915 No. 11

HUAI RIVER CONSERVANCY PROJECT

Seven Million Acres to be Rendered Immune from Floods by Reclamation Work

REPORT OF THE AMERICAN RED CROSS BOARD OF ENGINEERS

The Board of Engineers appointed by the American National Red Cross in accordance with an arrangement with the Republic of China to make certain investigations connected with the Huai River Conservancy Project in the provinces of Kiangsu and Anhwei submits the following report:

The Board was instructed to make:

(*a*) "A further survey and investigation of the physical conditions affecting the Huai River Conservancy that must govern the engineering question of feasibility of that project.

(*b*) "The determination with as close an approach to accuracy as may be practicable of the area of present waste and submerged public lands that through the regulation works will be reclaimed for agricultural, social, or industrial purposes, together with an estimation of their real and annual income value.

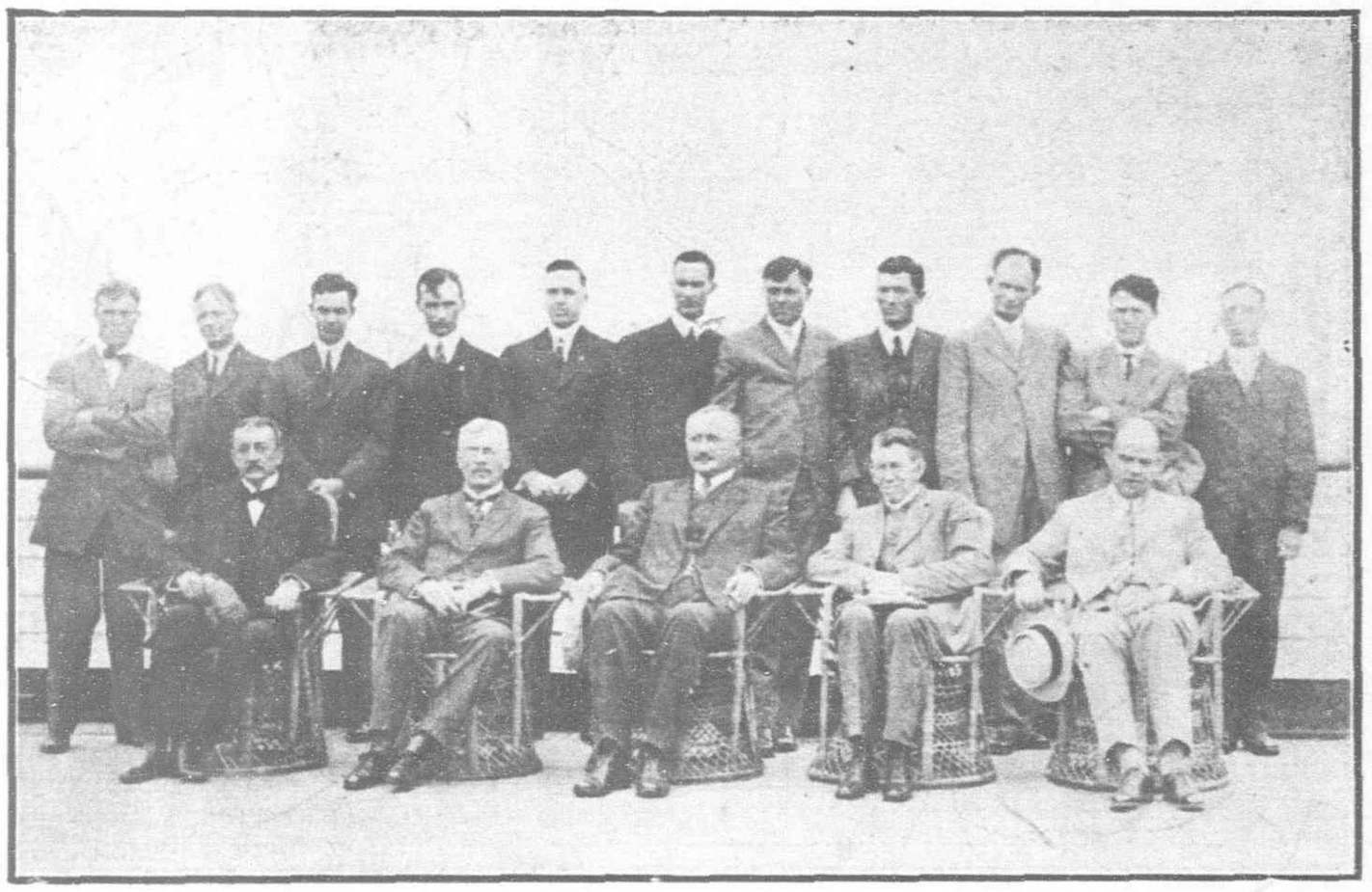
(*c*) "The determination of the approximate area of privately owned lands that will be improved in productiveness and value by means of the regulation works; also an estimation of the annual or income value per unit area of the benefited lands expected to result from these regulation works, etc.

(*d*) "An estimation of the tonnage and net revenue derivable therefrom on the traffic that should exist on that portion of the Grand Canal included within the area of this conservancy project.

(*e*) "An estimate of cost of the proposed regulation and reclamation works required to effect the Huai River Conservancy, the time required for construction and installation, and the annual cost of operation, renewals, and maintenance."

The Board was further instructed to submit its report on or before November 1, 1914.

The Huai River Conservancy area, as defined by agreement, comprises:



AMERICAN NATIONAL RED CROSS CONSERVANCY ENGINEERS TO CHINA.

Front row, left to right:—Mr. C. D. Jameson, General Adviser; Mr. A. P. Davis, Colonel Sibert, Professor Meade; Mr. Cornish, Principal Assistant.

The drainage areas of the Huai River, the Inner Grand Canal, the Yi River, the Sze River, and the Shu River, situated in Honan, Anhwei, and Kiangsu provinces, China, shown on General Map.

The object of the conservancy is:

To improve these watercourses, especially as to the physical conditions that affect flooding of arable lands, continual submergence of lands, or submergence to such an extent as to create swamps.

The Board sailed from Vancouver, B. C., on June 11, 1914, and landed at Shanghai June 28, accompanied by an engineering and clerical force:

First, to check the general elevations already obtained in the area in question by the Chinese Conservancy Bureau;

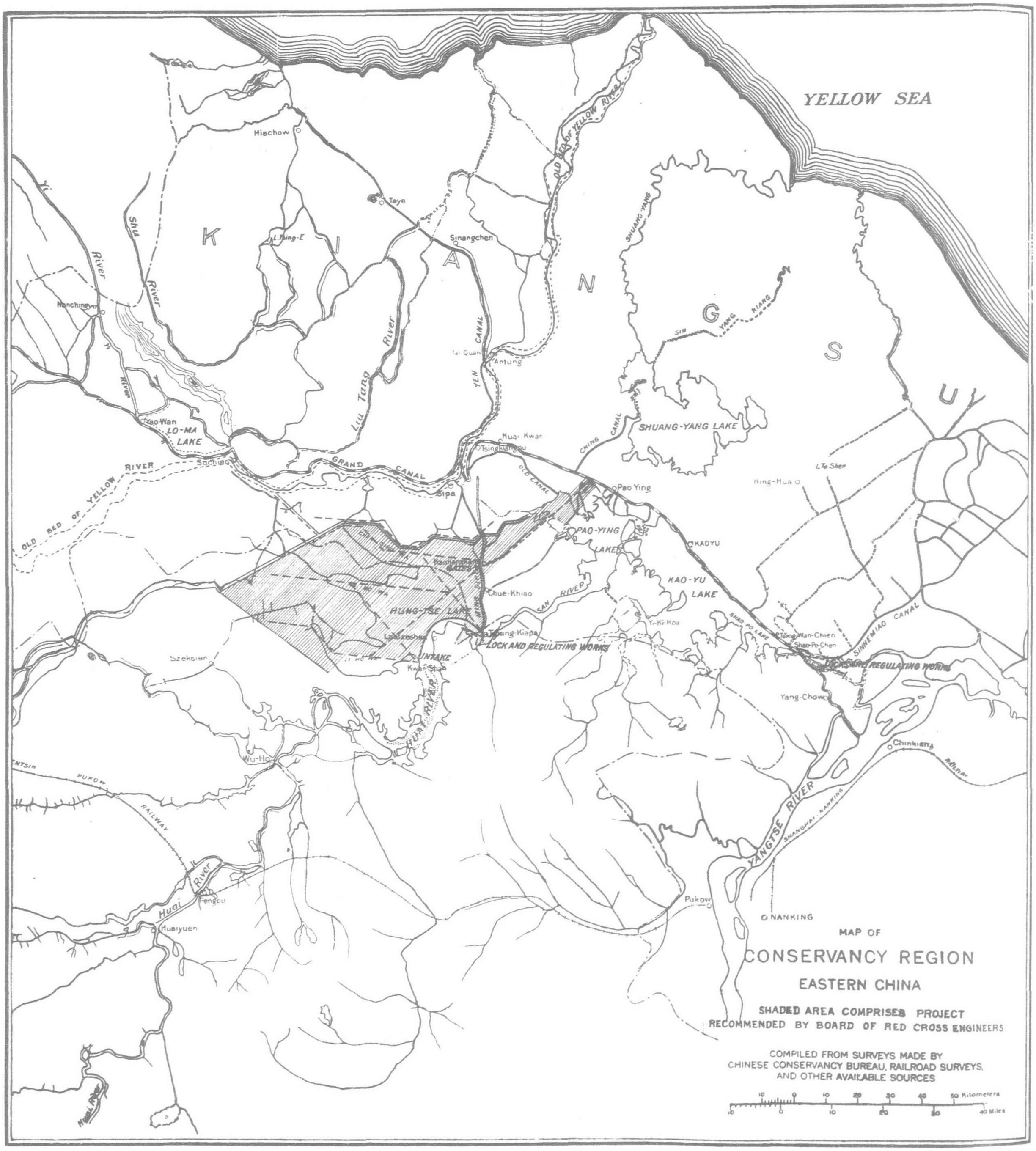
Second, to make such special additional surveys as thought necessary and as time would permit;

Third, to gage streams in the area in question.

The field parties were organized, outfitted, and dispatched to the field by July 5.

One party was directed to check by actual survey the elevations, hydrography, and topography in and along the Grand Canal from the Yangtse River to Tsingkiangpu, including the lakes to the west; thence through the Hungtse Lake and up the Huai.

Another party was dispatched to Pengpu, where the Tientsin-Pukow Railway crosses the Huai River, to establish a permanent gaging station in that vicinity and connect same with the line of levels brought up the Huai.



Another party was directed to run a line of levels down the Yen Canal from Tsingkiangpu to the sea at Haichow, and to obtain certain specified physical data concerning that waterway.

Another party was directed to make two sections of the present Yellow River bed and one of the old bed near the point where that river changed to its present channel in 1853.

The object of the surveys was to find the slope of trunk streams in the area in question to the sea and to the Yangtse River, to determine the maximum amount of water that it was necessary to pass to one or both places during floods, to obtain detailed topographic information necessary for planning the project, and such data as would assist the Board in forming an opinion as to the probability of the Yellow River leaving its present course and usurping the bed of the Huai and as to any precautions necessary to prevent such an occurrence.

The Chinese Conservancy Bureau had made an outline map of the area in question and had determined the elevations of the streams and lake beds above sea, together with their approximate

locations. Check lines of levels run by the Board's survey parties proved that the level work referred to above was well done. Practically nothing, however, was known as to the flood discharge of the streams involved in the project.

The Board made the following inspection trips:

First. From Pukow, on the Yangtse River, by the Tientsin-Pukow Railway, to the point where this road crosses the Grand Canal.

Second. By house-boat on the Huai River from twelve miles above Pengpu to and across Hungtse Lake to the Grand Canal.

Third. By house-boat on the Grand Canal from Chinkiang to the mouth of the Yi River at Yaowan, thence on horseback up a branch of the Yi to the channel that runs into Loma Lake.

Fourth. By boat to the mouth of the Grand Canal. The Board inspected the Loma Lake country and all important channels leading from the Grand Canal.

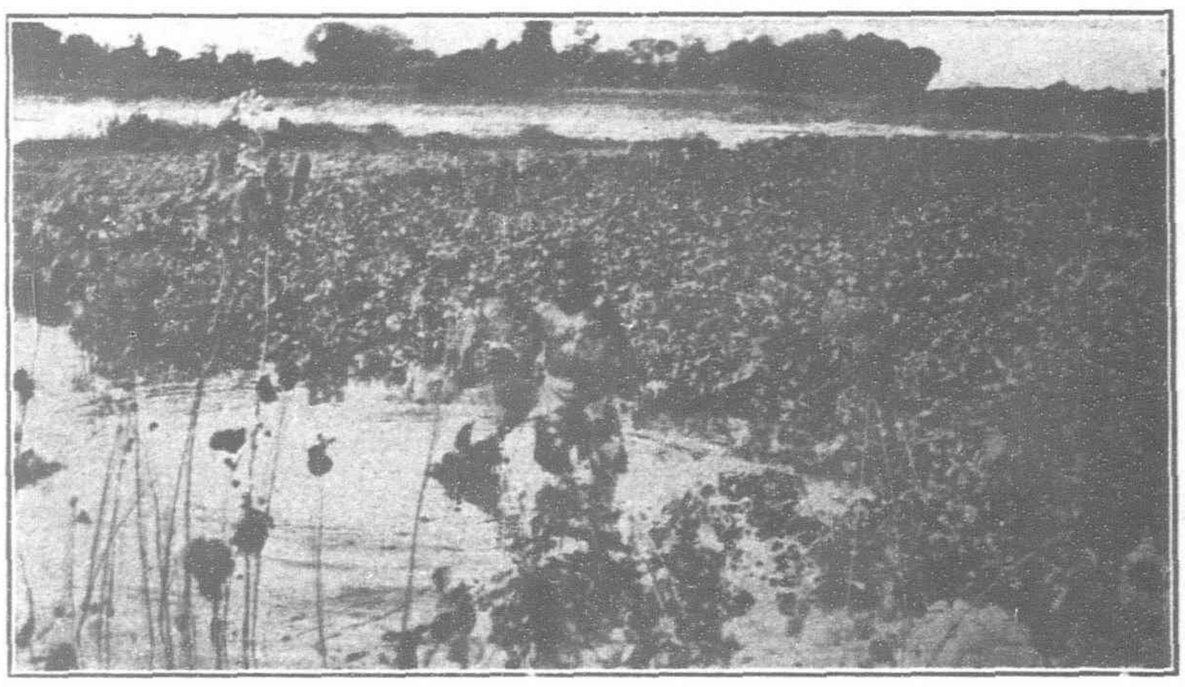
Fifth. By steamer up the Yangtse to Hankow, thence by rail to Kaifengfu; crossing the western edge of the Huai basin, thence by horseback to a point on the Yellow River north of Kaifengfu; thence by boat to a point a short distance below the place where the river left its old channel in 1853. Thence to Kaifengfu overland, crossing the old bed of the Yellow River; thence to Peking by the Hankow-Peking Railroad, returning to Shanghai by the Tientsin-Pukow Railway.

Mr. A. P. Davis made a special trip down the Yen Canal to its crossing of the Liutang River.

Other trips through the mouths of the Grand Canal, across Hungtse Lake and into the lakes to the west of the Grand Canal south of Tsingkiangpu were also made. Travel over the greater part of the area was difficult and slow, and the time available was not sufficient for a detailed examination of the entire region.

History

Geographically and topographically the conservancy area outlined in the Board's instructions is divided into two parts separated by the old channel of the Yellow River, which that stream occupied from 1324 to 1853.



CHINESE FARMER SAVING BEAN CROP FROM YI RIVER FLOOD.

First. The Sze, Yi and Shu areas. These streams, lying north and east of the old river bed, drain the mountainous country of Shantung. Their flood flow is torrential in character. Their lower course is quite flat and has been somewhat obstructed by artificial works; hence, their drainage to the Yellow Sea is imperfect.

Second. The Huai River area. This area, lying south and west of the old Yellow River bed, has a low gradient, and its former outlet has been practically closed by the deposits of the Yellow River. It has since established an outlet to the Yangtse through which the flood and low waters find imperfect relief.

Under local flood conditions the water from each of these areas passes, to a limited extent, by way of the Grand Canal, through the outlet of the other, but these areas constitute essentially separate problems, and should be and are herein treated separately except to the extent of their mutual interference.

The Yi, the Shu and the Sze Areas

The construction of the Grand Canal modified the course of the flood waters of the Yi and the Sze Rivers. All of such water, however, except a limited amount that passes through the Hungtse Lake and the Grand Canal south of Tsingkiangpu to the Yangtse River, finds its way as formerly, to the sea north of the old Yellow River bed. These flood waters, as well as those of the Shu, submerge the low lands on both sides of the Yen Canal. Practically the only important work done in this area was the construction of Yen Canal, directly across the natural drainage of the country. The operation of this canal involves the construction of temporary earthen dams across the branches of the Liutang River east to the Yen Canal. These dams are partially the cause of the smaller inundations west of the Yen Canal. The great inundations, however, would cover a large portion of this country irrespective of the Yen Canal.

The Huai River Area

The history of the Huai River district is so interwoven with that of the Yellow River and the Grand Canal that one cannot separate work done to meet conditions in the Huai River alone from that done for the Huai combined with the Yellow.

It is probable that prior to the time that the Yellow River usurped that portion of the Huai between the Hungtse Lake and the China Sea that the Hungtse Lake had considerable depth and acted, as at present, as a great regulating reservoir for the Huai, and that part of the channel of the Huai from this lake to the sea was simply an overflow channel from the lake.

After the Yellow River took possession of the lower part of the channel of the Huai and raised its flood surface and its bed, the flood level in Hungtse Lake was increased. This flood height was further increased and the lake bed raised by the Yellow River itself breaking into the Hungtse Lake during floods. This excessive height of Hungtse Lake due to the Huai and to the Yellow caused serious flooding of the country south of Hungtse Lake, both west and east of the Grand Canal, and the history of the country is full of descriptions of the loss of life and property resulting from these floods. To remedy this condition there was built during the Ming Dynasty a high earthen dike, presumably extending from the Grand Canal to high land west of Tsiangkiapa for the purpose of preventing the waters of Hungtse Lake and the Yellow River passing south and flooding the country to the southeast. During the reign of the third Emperor of the Manchu Dynasty a cut-stone retaining wall was built on the lake face of this earthen dike. Apparently some inadequate sluiceways were constructed originally through this dike.

The water being thus practically penned in as to a southern outlet, and having no other outlet than east to the sea through the Yellow River, excessive floods must undoubtedly have resulted in the country north of Hungtse Lake and the then course of the Yellow River. It apparently was then decided to make five large openings in this dike, such openings to be closed with removable dams, called by the Chinese "pas," that is, with dams built of material that could be removed when the Hungtse Lake reached a certain stage; and detailed instructions were promulgated concerning the opening of each "pa." This then gave a large outlet south as well as through the Yellow River bed itself. The result of the operation of these "pas" was serious flooding almost annually of much of the country to the south on both sides of the Grand Canal.

The existing channels from the Ming Dike south to the lakes, including the San River, and from them to the Yangtse River, are evidently artificial and indicate the execution of an immense amount of work for the purpose of passing safely as much as possible of the combined floods of the Huai and Yellow Rivers south to the Yangtse River.

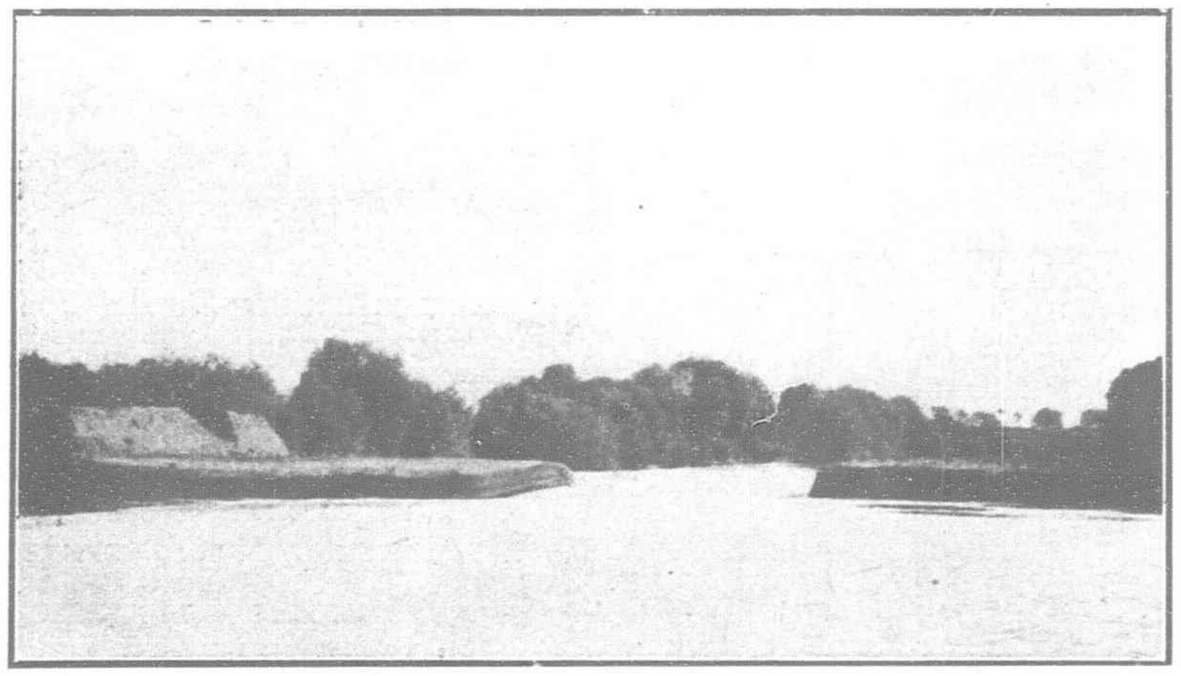
Removable dams or "pas" were built at the crossing of the Grand Canal and Yellow River to prevent the latter during high water connecting with the Hungtse Lake or the Grand Canal. During low water these dams were removed so that boats coming up the Grand Canal could cross the Yellow River and continue their journey north. It appears from history that these

dams were often washed out by the Yellow River during floods. In order to protect the east bank of the Grand Canal during such floods, five pas were built in such bank. Opening these pas gave relief to the high waters in the canal, but flooded an extensive and thickly populated area to the east between the canal and the sea.

In 1853 the Yellow River abandoned the channel that crossed the Grand Canal near Tsingkiangpu and left altogether the country south of the Shantung Peninsula and took a new course into the Gulf of Chihli.

The original conditions that affected the flow of the Huai River were materially changed by this and other visits of the Yellow River. The bed of Hungtse Lake was raised to an elevation of from thirty to thirty-three feet above sea-level, and the bed of the Huai was materially raised from Tsingkiangpu to the sea. This raised bed of the river and the dikes of the Grand Canal deprived the Huai of easy access to the sea to the east. The flood waters of the Huai, therefore, since this date have passed almost entirely through the lakes to the west of the Grand Canal and into the Yangtse River.

While the floods and consequent famine and distress in the basin of the lower Huai River and Hungtse Lake are very serious, the conditions were indescribably worse when the Yellow River connected with this area prior to 1853. The possibility of a similar connection between the Yellow River and the Huai basin which might destroy the effect of any conservancy work, caused the Board to conclude that this report would be markedly incomplete unless it included an investigation of the physical relations existing between the Huai and the Yellow River basins, with a view to forming an opinion as to the probability of the Yellow River again usurping the bed of the Huai.



OPENING IN EAST BANK OF GRAND CANAL TO DISCHARGE FLOOD WATERS.
Protected by revetment of reeds and earth.

The Yellow River and the Huai Drainage Area

With the exception of the extreme western tributaries, the Huai River drainage basin lies in the southern half of the great plain of eastern China. This plain occupies a roughly semicircular area approximately 600 miles in radius around the eastern end of the mountainous Shantung Peninsula as a center. This great plain is of delta origin, developed in a great bay or partially enclosed sea, which in prehistoric times formed a western extension and union of the present Gulf of Chihli and the Yellow Sea. This basin was gradually filled by the deposits brought down from the surrounding mountains by the numerous streams draining them, including the Yangtse Kiang, the Huang Ho (or Yellow River), and the western tributaries of the Huai.

The Yellow River has been more largely instrumental in the formation of the great plain of China and in the creation of the abnormal conditions that obtain in the plain than any other factor. These conditions are due to its comparatively recent occupation of its present lower course, to the unusual physical character of its sediment, and to the conditions that surround its flow from the mountains to the sea.

From the point where the Yellow River is deflected south by a spur of the Yinshan to the point where it debouches on the great plains of China, the course of the river is comparatively modern. Of this part of the river Prof. Bailey Willis (see Researches in China, vol. I, p. 234) says:

"If we attempt to follow it from its delta on the great plain of eastern China, we have, indeed, a channel which marks a continuous river, but we have not a valley of erosion which we may attribute to the stream. As we saw it at the Tung-kuan, and as it is described in its course from that point eastward, it is a stream occupying a depression produced by normal faulting. It has taken possession of a channel, but has not made one. In its long course from north to south, above the great elbow between the provinces of Shan-si and Shen-si, it flows much of the way in a canyon, and where not bounded by cliffs of rock it is shut in by walls of loess. Some portions of its channel appear to be antecedent to upwarps in the surface, and we are thus thrown back to an earlier date than that of the warping for the beginning of the river's course. But it appears, from descriptions given of the valley in works of travel or by the natives, that nowhere in its lower section is the river accompanied by that wide channel of an older valley which we would expect if it had long flowed in its course across the surface. * * *

"These characteristics of the river valley point to unusual youth, and apparently indicate an absence of an earlier history."

Prior to the development of the modern river, the ancient Yellow River occupied its upper course as far as the western border of Shansi. From this point it probably flowed through the present valley of the Heisen Ho into the chain of lakes which occupied the upper valleys of the Sankang Ho and the Yang Ho, and discharged through the present Yang Ho gorge, through the Hun Ho and the Pei Ho into the interior sea which has since become the great plain of China.

This is shown by the system of terraces of the upper Yellow River, which apparently extend from Ningsiafu in Kansu to Yenking Chow, north and west of Peking, and which occupied the valley of the chain of lakes mentioned.

"That this deposit was formed in fresh water is shown by the presence of the shells found in the terrace of the Te Hai. The uniform character of the loam in the different basins, and in all parts of the same basin, its great extent, and the fineness of the material of which it consists, are conditions which prove that it is not of local origin, or derived from the detritus of the neighboring shores, but that it was brought into the lakes by one or more large rivers which must have drained an area of great extent. Now throughout the region in question the only rivers are those of the Yang Ho and Sankang Ho basin, and, independently of the fact that these streams drain a very small area, the valley systems of these were almost entirely occupied by the lakes.

"Indeed the only direction from which a river of any importance could have come was from the west, in which case it could only have been the Hwang Ho (Yellow River)." (See Raphael Pumelly's "Geological Researches in China, Mongolia, and Japan," page 42.)

The later development of the great system of normal faults which extend through the mountains of Shansi for some 450 miles in a general northeasterly and southwesterly direction was accompanied by a general settlement toward the southern end of the fault block and a rising to the northern portion of Shansi near the Mongolian border. This movement either produced an upheaval and consequent obstruction in the eastern course of the ancient Yellow River near the western border of Shansi or accomplished the same result by opening a lower outlet channel to the south and east around the end of the fault block, and thus caused the Yellow River to radically change its point of entrance into the great plain of China.

Evidence shows that when the Yellow River first began to discharge its waters through the present outlet near Mengtsing, the land stood at an elevation of several hundred feet below its present altitude, and the silt brought down by the river was deposited in deep water, forming a normal delta adjacent to the mountains, and at the same time with other streams building up, with lighter material, the general sea bottom where the great plain of China now exists. Later in geological times diastrophic movements raised this sea bottom to or above the water surface, thus forming the base at least of the great plain. This upward movement of the sea bottom and of the Yellow River delta caused the degradation of the bed and delta of that stream and others flowing into this sea, as evidenced by the terrace systems in the valleys of the Yangtse and Yellow rivers, where they debouch from the mountains, referred to by Willis and Pumpelly. As this upward movement continued, the consequent degradation probably increased the deposits in the sea, thus increasing the slope of the sea bottom from the mountains to the present Gulf of Chihli and the Yellow Sea. When this upward movement caused the great plain of China to emerge from the sea, the

length of the Yellow River was materially increased and its action was then reversed. Instead of cutting its own bed and delta, it commenced to build them up so as to form a normal gradient for its greatly increased length. Before this could be done, man interposed and began to confine the stream by dikes.

The great disasters caused by this river in the past, which have given it the name of "China's Sorrow" and which are still a menace to the great plain of China, are largely the result of the fight which has been going on for centuries between the Yellow River, which is carrying on the development of a normal delta plain under abnormal conditions, and the Chinese people, who have attempted for four thousand years or more to confine this stream within limited bounds in order that they may cultivate as much as possible of the great plain of eastern China and support thereby a comparatively dense population.

Laws of Delta Growth

Normal deltas independently created by river systems are in general of a fan-shape and have sufficient gradient to assure discharge of the load of silt carried by their waters at ordinary stages into the sea. Only after such a gradient is established in the normal delta plain is the delta normally further extended. The channels are, when normal, sufficient for low water conditions, but the flood waters commonly overflow the lower delta area, and the contained silt forms natural dikes along the channel and slowly builds the adjoining plain. The gradient being sufficient for the transportation of silt, is not increased by the silting of the channel excepting as the delta is extended and it becomes necessary to maintain the gradient as the length of the stream increases. A normal stream meanders across the flood plain, cuts and fills its concave and convex bends, and as its length increases raises its bed and occasionally makes radical relocations of its lower channel.

The Normal Delta of the Yangtse

The Yangtse has largely created its own delta, which is normal and occupies the extreme southern portion of the great plain above described and the extension of such plains among the mountains and hills to the southward and eastward to the Bay of Hangchow. The Yangtse has at different times varied its course so as to occupy most of this delta plain, its course being to a considerable extent modified by its delta growth and the position of the intervening mountains.

Within historic times there has been a considerable extension of the Yangtse delta plain, and doubtless a corresponding rise in its upper delta bed, or at least in its water slope to overcome the losses of gradient caused by such extension.

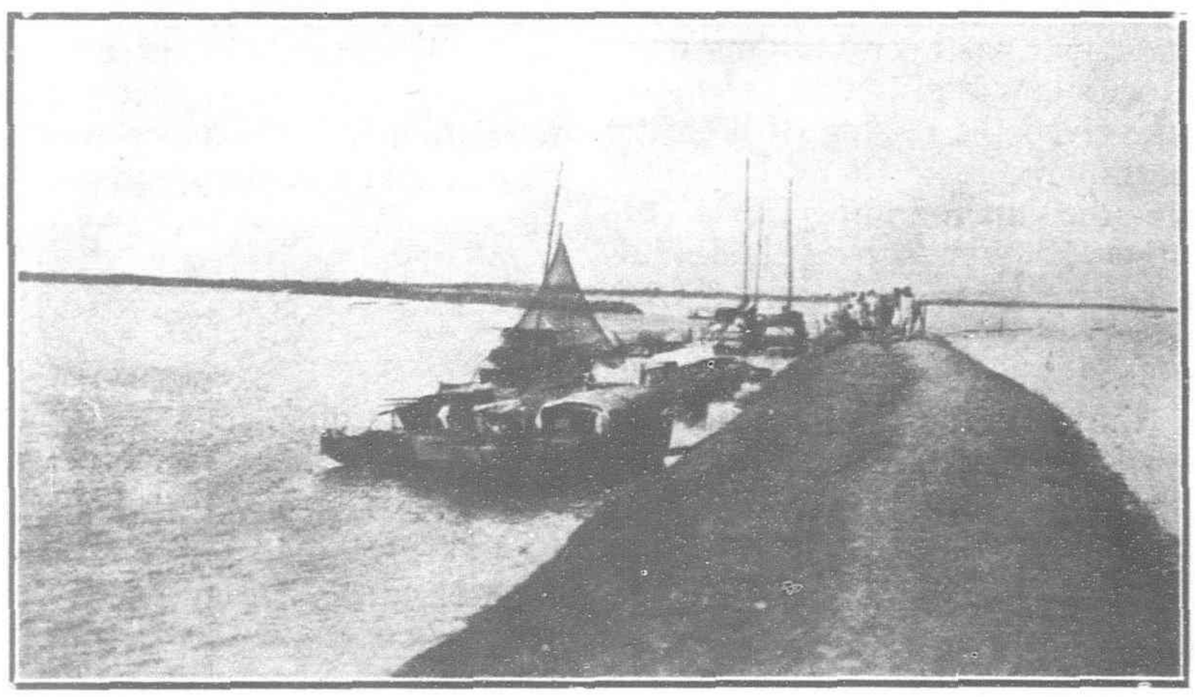
The conditions of a normal delta are clearly shown in the delta of the Yangtse. Although its channel has been diked for centuries and in spite of a considerable extension of its mouth seaward, the river has not elevated its bed above the surrounding diked lands.

Delta Gradients

The low water elevation of the Yangtse at Hankow, 600 miles from the sea, is about 133 feet above mean sea-level, giving it a low-water slope of approximately .22 foot per mile. The silt carried by the water, while considerable, is small as compared with the silt content of the Yellow River. The normal delta gradient of any stream is necessarily a function of the quantity and quality of the silt carried by the stream and of the nature of the bed over which the stream flows. In the Yellow River not only is the silt carried excessive in quantity, but it is pervious in character and is deposited on a pervious substratum that permits extensive losses in the river volume by seepage and hence produces an unusual cause for silt deposition. The Yellow River, in its effort to build up a normal delta plain, has already raised its bed at the bridge of the Hankow-Peking Railway, about 400 miles from its mouth, to an elevation above mean sea level of about 400 feet, giving it a gradient of about one foot per mile. Even this gradient, apparently excessive when compared with the gradient of the Yangtse, is totally insufficient for the normal purposes of silt transportation to the sea. A river flowing over a plain having insufficient or only sufficient gradient for silt transportation purposes has no general tendency to deepen its bed. The Yellow River, in accordance with this law, has never excavated a channel in the great plain of China, but has meandered over the plain in its effort to create normal delta conditions and has formed channels only by the building up of flood plains adjacent to its lines of flow.

The Condition of Unrestricted Floods of the Yellow River

The results from the unrestrained flow of the Yellow River may be understood and appreciated by its action during the times it has escaped from its diked captivity and wandered normally over the plains of China. About 1853 the river broke away from the bed that it occupied for over five hundred years, at a point about thirty miles northeast of Kaifengfu, and wandered unrestrained for many years to the northward of its former course, capturing the bed of the Ta-ch'ing ho and moving its mouth some 250 miles to the north of its former outlet and to the region to the north of the Shantung Mountains. About 1867 a portion of the area occupied by the unrestrained river was visited by Messrs. Ney Elias and H. G. Hollingworth.



DIKE OR "PA" AT TSIANGKIAPA. PROPOSED LOCATION OF DAM AND GATES TO CONTROL WATERS OF HUAI RIVER.

Describing their impression of the Yellow River at the Nanshan, a small limestone hill forming the western extremity of the Tsinan Highlands, Mr. Elias says:

"The river at this point has no defined bed, but flows over a belt of country some ten or twelve miles in width, having merely the appearance of a flat, level district in a state of inundation; patches of ground, trees and even villages cropping up here and there; the Grand Canal traversing it in a general northwest direction until it reaches the northernmost channel of the river at Palimiso some fifteen miles west from the Nanshan. Along this fifteen miles of the canal the banks have been carried away in a number of places by the Yellow River breaking across them. The gaps are sometimes half a mile or more wide, and the current rushing through them almost obliterates the course of the canal, and renders the navigation upon it difficult. For dreariness and desolation no scene can exceed that which the Yellow River presents here. Everything natural and artificial is at the mercy of the muddy dun-colored waters, as they sweep on their course to the sea; a flood not likely to subside and a doubly mischievous one from the fact of its ever moving onwards with a swift current."

The work of the Yellow River, due to one of its breaks through the artificial dikes by which its course has been temporarily restrained, is described by Tyler as follows (see notes on the Hwang Ho or Yellow River, W. F. Tyler):

"Five years ago (in 1898) a breach occurred at Wang-chia-li-hang, some 40 li below Chi-nan, on the south bank, which devastated a large area of country and caused the terrible distress which resulted in the organization of relief work by foreigners. The effect of this flood I was able partly to examine while going down the Hsiao-ch'ing-ho, and afterwards by riding along the course of the torrent from where the breach occurred, I estimated that at least 100 square miles were turned into a sandy waste of almost absolute sterility, while over an area of 200 square miles a deposit of more or less sterility was laid. * * * At the few places where actual examination was possible the depth (of the deposit) was from 6 to 10 feet, and the statement of the natives was that it varied from 4 to 8 feet. The River Taotai (official in charge) concerned considers the average depth to have been about 5 feet. Now, if we adopt the depth of 5 feet, it is seen that the sand which was poured out of the river in a single flood was about 1/5 cubic mile (28,000,000,000 cubic feet)!"

Describing the last great change in the course of the Yellow River, Tyler says:

"In 1853 the Hwangho broke its dike near K'ai-feng, and about 270 li to eastward of the breach the defluent waters found the bed of the Ta-

ch'ing-ho, as if it had been specially prepared to conduct the Yellow waters for the remaining distance, of about 800 li, to the sea. The bed of the Ta-ch'ing-ho was at that time about 1 li wide, and was sunk in the plain to a depth of some 50 feet or so. This bed, to commence with, was more than sufficient to hold even the flood waters of the river; but the silting up must have commenced at once, and each year the flood waters must have come closer and closer to the top of the river bank.

"After a period of 30 years, *i. e*, in 1883, the flood waters began to overflow and gently flood the plain. In consequence of this, the Governor of Shantung constructed dikes on both sides of the river from Tung-s-hsien to the sea. These dikes are the present existing outer dikes of the river. Previous to this the dikes had gradually been continued down from Honan to Tung-s-hsien." * * *

"In the meantime the Hwangho gradually raised the plain between its embankments, until now (1903) the flood level is about 15 Chinese feet above the level of the original plain—that is to say, the flood level has risen 15 feet in 20 years, *i. e.*, ¾ foot a year."

Historical evidence indicates that the Yellow River has been diked for about four thousand years and has in no case ever created on any course a gradient sufficient for normal silt transportation. This diking was therefore begun under conditions radically different from those of rivers flowing through deltas completed normally by their own silt deposits. On account of the necessities of a thickly populated country the wandering branches of the Yellow River flowing unrestrained across the flat plain of China were early confined to a more narrow range by an extensive dike system. These dikes were built locally and insecurely at first, but were gradually strengthened, systematized and improved until they finally developed into an extensive dike system under the somewhat experienced and systematic care of the local and national authorities. In its confined channel, between primitive dikes, the Yellow River has been building up a restricted delta and endeavoring to create a gradient commensurate with its needs. This has involved the raising of both its bed and the limited flood plain within the restricted dikes until they are frequently high above the surrounding level of the great Chinese plain. As the heights of its bed and flood plain increased within the restricted area the river frequently broke through its confining dikes, and while sometimes recaptured and returned to its artificial limits, often permanently threw off its bonds, devastated the country and wandered uncontrolled over a new portion of the plain, carrying on its normal work of delta building in a wide track until again confined in a new and restricted course to enable the Chinese people to reclaim temporarily the lands necessary for their sustenance.

Danger to Huai River Conservancy from Yellow River

The only points at which a break in the Yellow River is likely to harm the Huai River improvements would be between the old river bed and the loess hills near the Hankow-Peking railway bridge. East of this the double-dike system of the old river bed lies between it and the district and is a fairly effective safeguard against such a disaster.

West of the old river bed there has evidently been a degradation of the bed of the present river, caused by an increased gradient in this part of the channel, due to the breaking of the channel through the nor h dike into the lower land at the time the river took its present course. This drop in the bed has not yet been recovered. This is shown by the facts that the surface of the river at ordinary stage is below the bed of its ancient channel and that the river above the break does not at present rise to its former flood plain even at times of maximum flood, and its safe control through this section, with reasonable care—which must for safety be fully assured—is not likely to become a serious problem within the time limits of any probable issue of bonds for conservancy purposes.

The Effect of Imperfect Drainage and Rainfall

Owing mainly to the flat topography, local drainage channels throughout the conservancy area are in general very poorly developed, and during dry weather are frequently hardly discernible, as they occupy depressions that in general are but a few feet below the level of the surrounding country and require but a few feet of water to bring about flood conditions over extensive areas. The drainage is so defective as not to offer relief for even the average conditions of rainfall that occur in this region. The torrential character of the rainfall that frequently occurs in this area necessarily results in flood conditions which cause great loss and serious famines in the affected areas. Thousands of live have been lost by drowning and much property has been destroyed Even greater loss of life has ensued from starvation in th resulting famines, and millions have been spent even to partiall mitigate the distress occasioned. While the average rainfall i about 36 inches per annum, the minimum rainfall locally is no more than one-third of this amount, and the maximum may be quite 80 inches. A local rainfall of 25 inches fell in 48 hours ten miles north of Pengpu in August, 1910. Fortunately such rainfalls are unusual, but rainfalls of from 4 to 8 inches in from one to three days are quite common and result in floods more or less serious according to the condition and extent of area over which they occur.

In July, 1914, during the early part of the visit of the Board to this area, the country was suffering from a drought which had reduced the crop production from three-fourths to one-half the normal amount; in July and August vast numbers of grasshoppers, favored by the dry season, utterly destroyed certain crops; and in September late rains covered much of the country with overflow, destroyed much of the remainder of the crops, and afforded a most unfortunate climax to the afflictions of this hard-working community that even at the best is apparently unable to secure more than a bare living from the soil.

It is apparent from the imperfect drainage conditions throughout this country that any general system of main channel improvements can have but limited effect on the local drainage systems of the entire basin, but that any such system must be gradually extended and adapted to the local conditions. Such extensions, to be properly planned, require a vast amount of detailed information not now available regarding the local topographic and hydrographic conditions.

PROJECTS

Yi and Shu and Sze

The Sze is an overflow channel from the Weishan Lake into the Grand Canal. Its discharge depends almost entirely upon the stage of that lake, concerning which the Board has no information.

A high flood in the Yi was measured at Nanchingyih by one of the Board's survey parties on September 4, 1914, and found to be 109,000 cubic feet per second. While the General Map does not show other channels, it was ascertained by this survey party that a material part of the flood waters of the Yi left the main channel at several points north of Nanchingyih, flowing southwest in channels and across country to the Grand Canal. Judging from the survey party's description of the above situation, the flood discharge of the Yi may reach or exceed 140,000 cubic feet per second.

A large part of the flood water of the Yi follows the Grand Canal, finding outlets into the Liutang and the Yen Canal. Some passes into the Hungtse Lake and on to the Yangtse River. Some passes through the sluice locks at Tsingkiangpu and on to the Yangtse, producing floods in the Grand Canal.

No opportunity presented itself for measuring the flood discharge of the Shu. A comparison of its watershed with that of the Yi leads to the belief that its flood discharge may be approximately two-thirds that of the Yi, the physical conditions being quite similar, and that the total volume of flood waters that has no adequate channel to the sea and combines in the flat country west of the lower Yen Canal may be 225,000 cubic feet per second or more.

The problems involved in attempting to control the floods of the Yi, Shu and Sze are many, and the Board finds that the data available is not sufficient to enable it to formulate a project. Definite information is needed as to flood discharges. An accurate topographical map showing half-meter contours of all the country north of Tsingkiangpu between the Yen Canal and the Grand Canal is an essential. This map should extend north until it includes all connections between the branches of the Yi and the Grand Canal and until it develops all feasible routes by which the Yi River could be diverted into the Shu. In making this map accurate information should be obtained as to the extent

of the flooded area and the benefits that would accrue from the control of the floods of these rivers.

In general it would seem advisable:

1st. To join the Yi and the Shu as far north as practicable in one capacious, strongly leveed channel and to pass their combined floods to the sea by the shortest, most feasible route.

2d. That locks and dams be built in the Grand Canal and the flood waters of the Yi be completely diverted from such canal.

3d. The cost of such a project would be great and the benefits unascertainable with present information.

Huai River Project

The Huai River drains an area of about 50,000 square miles above Pengpu. The surveys show that its valley slopes very gently to the sea; that the average fall at high water from Pengpu to the sea via the Hungtse Lake through the bed of the old Yellow River (a distance of 256 miles) is 3.28 inches per mile.

Assuming the Huai River turned directly south at Tsangkiapa and separated from the bed of Hungtse Lake by a dam, the average slope from Pengpu to the Yangtse River when the latter is at extreme flood (a distance of 213 miles) is 2.98 inches per mile.. The influence of the Paoying and Kaoyu lakes is such, however, as to make the grade available for the narrower channels greater by this route than along the Yellow River route.

All of the heretofore proposed projects for improving the flood conditions in the Huai River, of which the Board has knowledge, contemplate either sending all the water east to the sea, preferably by the bed of the old Yellow River, or a portion of it to the sea by that route and the remainder south to the Yangtse through the lakes to the west of the canal.

While the Board has not had opportunity to make a direct measurement of the maximum flood discharge of the Huai River, it has had measured the discharge of that stream at Pengpu at stages between low water and an eighteen-foot stage. The low-water discharge was 4,000 cubic feet per second, and the discharge with a rise of eighteen feet was 84,815 cubic feet per second. The river sometimes rises ten feet above that stage, thus making variations between extreme high and low water about 28 feet. The maximum flood discharge of the Huai at Pengpu, estimated from measurements taken and from calculations based upon known high-water marks at Pengpu and a point eight miles up stream, plus the roughly estimated discharge of the small streams entering the Hungtse Lake and the Huai below Pengpu, leads the Board to conclude that the maximum of water entering the Hungtse Lake is at least amount 200,000 cubic feet per second.

The following methods of so disposing of this water as to reduce floods have been proposed:

Project No. I

For this project it has been proposed to send half the water down the old Yellow River bed to the sea and half south to the Yangtse. To improve flood conditions around Hungtse Lake and up the Huai, it would be necessary to so arrange discharge capacities of outlet channels as to reduce flood heights in Hungtse Lake. This height, as determined by the Conservancy Bureau, is about fourteen and a half meters above sea-level. To materially improve flood conditions, Hungtse Lake should not be allowed to rise above a 13-meter stage.

With a lake-level at 13 meters, it is estimated that a channel crossing the Grand Canal and extending down the old Yellow River bed to the sea capable of discharging 100,000 cubic feet per second would have the following approximate dimensions:

1,000 feet wide, 23 feet deep, with side slopes 1½ to 1, and would require the excavation of 920,000,000 cubic yards of material.

With Hungtse Lake at 13 meters and the Yangtse River at extreme flood stage (19 feet on the Chinkiang gage), a channel from Tsiangkiapa to and through the lakes to the south and thence to the Yangtse River capable of discharging 100,000 cubic feet per second without increasing flood heights in the Paoying and Kaoyu lakes to the west of the Grand Canal would involve the excavation of 27,000,000 cubic yards of material, making the total yardage of this project 947,000,000.

The cheapest route to pass 100,000 cubic feet per second from Hungtse Lake east to the sea would be via the Yen Canal and the Liutang River. Such a channel would involve the excavation of 589,000,000 cubic yards of material. Adding 27,000,000 cubic yards for the southern channel, there results a total of 616,000,000 cubic yards.

The results of this project would be as follows:

a. No appreciable decrease in the height of the sudden floods of the Huai River above Pengpu.

b. A decrease in the length of time that the river would remain in flood.

c. A lessening of the height of floods due to long-continued rains, when such conditions would, under present conditions, cause the Hungtse Lake to rise above the 13-meter stage.

d. No land reclaimed; benefits indefinite.

If this project be varied and the channel from Tsiangkiapa to the Yangtse River be made by enlarging existing channels along the western edge of the lake region, it would be practicable to drain the beds of Paoyang and Kaoyu lakes during the winter and spring months, when the Yangtse is low, and such lands be made available for wheat. This would largely increase the total yardage of Project No. 1.

Project No. II

This project proposed to send the flood waters to the same destinations; one-half to the east to the sea and one-half to the south to the Yangtse. That portion of the water destined for the sea to the east was to be confined to a channel across the bed of the Hungtse Lake, parallel and close to the Ming Dike. This channel was to be part in excavation and part formed by dikes. Imposing the same conditions as to height of Hungtse Lake, the yardage involved in making a channel capable of carrying 100,000 cubic feet per second to the sea would materially exceed the corresponding estimate in Project I. The cost of the other part of the project would be the same as in Project I; and the results would be essentially the same as in Project I, since the Hungtse Lake cannot be reclaimed by either.

Project No. III

It has been proposed for this project to send all the water to the sea through the old Yellow River bed, reclaiming the beds of Paoying and Kaoyu lakes west of the Grand Canal.

With the Hungtse Lake at 13 meters, it is estimated that it would require a channel in the old Yellow River bed approximately 2,000 feet wide and 23 feet deep to carry 200,000 cubic feet per second to the sea, and would involve the excavation of 1,880,000,000 cubic yards of material, the channel slope from the Grand Canal to the sea being 3.17 inches per mile.

The beds of the lakes in question are below the extreme flood heights of the Yangtse. If such beds were thoroughly drained, a wheat crop could generally be grown on such lands. With dikes to hold back the flood waters of the River Yangtse during the summer months, there would be no drainage for this low, flat land, and with the excessive rains common during June, July, August, and September, it is not thought that crops could be grown during that part of the year.

If Project III be varied by sending all the water to the sea by the Yen Canal and Liutang River, it would involve the excavation of about 1,080,000,000 cubic yards of material.

None of the plans described above make the reclamation of the bed of Hungtse Lake practicable.

The Board after mature consideration finds itself unable to recommend any of these projects.

Project Recommended by the Board

The Board is of the opinion that it is best not to attempt to divide the waters of the Huai, and that all such waters should go, as they have for the last sixty years, into the Yangtse River near Chinkiang; that such waters should be diverted into Paoying and Kaoyu lakes in such a way as to make entirely feasible the reclamation of the bed of Hungtse Lake. This reclamation of the Hungtse Lake bed makes it practicable to construct a channel across the same with high dikes, through which can be safely passed to Paoying Lake the waters of the Sui and the drainage

water from a large part of the territory annually flooded, bounded by Hungtse Lake, the old Yellow River bed, the Tientsin-Pukow Railway, and the Huai River below Pengpu.

The Board caused an investigation to be made of the feasibility and cost of diverting the Huai River to Paoying Lake on two alternative routes:

First, by building a dike across its mouth just below Kweishan, and cutting a channel across the peninsula from a point above Kweishan to Tsiangkiapa.

Second, by building a suitable dike from the left bank of the mouth of the Huai River opposite Kweishan to the village of Tsiangkiapa about three kilometers from the shore line.

It was disclosed by this investigation that the former plan would involve a far greater quantity of earth excavation than the latter, and in addition thereto a large quantity of rock excavation. The cost would be so great as to make that route practically prohibitive.

By the plan recommended it is proposed to build a suitable dike on the line indicated on the drawing and described above, from the left bank of the mouth of the Huai River opposite Kweishan, to the village of Tsiangkiapa, roughly parallel to the shore of the Laotzeshan Peninsula, and everywhere at least three kilometers therefrom. This will form with the shore line a channel for the diversion of the Huai River from Hungtse Lake, which with the proposed excavation will be capable of carrying about 200,000 cubic feet of water per second at lake stage of 13 meters, and disposing of ordinary floods of 100,000 cubic feet per second without permitting the water at Kweishan to rise more than 12 meters above sea-level.

With a slope of .00005 between Laotseshan and Tsiangkiapa, the following table shows roughly the discharge capacity of this channel at various elevations of the Huai River at Kweishan:

Stages of river.	Discharge in cubic feet per second.
11 meters above sea-level	30,000
12 meters above sea-level	100,000
13 meters above sea-level	200,000
14 meters above sea-level	340,000

It is proposed to build regulating works at the Tsiangkiapa outlet, with a capacity of 200,000 cubic feet per second, with water surface just above the works 12 meters above sea-level; to provide a channel below Tsiangkiapa with a discharge capacity of 200,000 cubic feet per second to Paoying Lake, with the lake at a stage 8 meters above sea-level; and channels from that lake to the Yangtse having the same capacity, with the river at 19 feet on the Chinkiang gage.

It is proposed to provide the unwatered bed of Hungtse Lake with an extensive network of canals and laterals, with beds about 3 meters below the surface of the ground. The outlets of the principal drains would be provided with controlling works, so that the channels would serve for drainage when left open, and by closing them the canals would be filled from the Huai River and used for irrigation by means of moderate lifts varying from 1 foot to 6 or 7 feet, according to their distance from the source of supply. This system would also be available for navigation, and would connect with the Grand Canal and thus make available the waters of the Huai River for navigation in that canal, and for irrigation east of it when needed.

The enlarged channel capacity to be provided between the Kaoyu Lake and the Yangtse would in dry weather empty that lake, and, unless prevented, so deplete the waters of the Grand Canal as to destroy navigation and deprive the lands east of it of irrigation water. To prevent this, and to improve navigation it is proposed to build a lift lock in the Grand Canal near the town of Shaopo, with a total lift under extreme conditions of about 4 meters, and a channel with lock and regulating works connecting the Grand Canal above this lock with the channel leading to Sinnemiao. This will prevent waste of water in times of scarcity, insure a stable irrigation supply to the eastward, and greatly improve the navigation of the Grand Canal, which is now seriously interrupted in low-water periods. It is also proposed to dredge the Grand Canal from its lock southward to a bottom elevation of minus 4 feet on the Chinkiang gage.

Just above Tsingkiangpu it is also proposed to build a lift lock of 4 meters lift capacity, so located as to eliminate from the main canal all the sluice-locks above that town and also the great curves that occur in the canal in that vicinity. This will save distance, economize water, make navigation much safer and feasible at all stages of water, and improve the navigable capacity of the canal at that point and for some distance above. It is proposed to provide a regulated flood channel from the canal above this lock to Paoying Lake to care for the same proportion of the flood-waters from the upper Grand Canal as have formerly passed down the Grand Canal and into the Hungtse Lake. No water would be allowed to flow from this point down the Grand Canal except that used for lockage. This would thoroughly protect the country east of the Grand Canal and south of the old Yellow River bed from all floods except those due to local rainfall, providing the existing east dike of the Grand Canal be kept in good repair.

It is proposed also to connect the valley of the Sui with Paoying Lake by a large drainage channel with a normal capacity of 50,000 cubic feet per second. This channel would cross the reclaimed lands of Hungtse Lake and would be separated from them by high dikes. Branch dikes from these, connecting with high ground to the north and south, would be provided to protect from overflow the reclaimed lands of Hungtse Lake. Various branches and laterals connecting with the main drain would be necessary to properly drain the lands, but the topographic information concerning the country affected is insufficient to permit the location of these drains at present, and detailed quantities and estimates must await the preparation of a good topographic map of the region. This system of drainage would be of great benefit in relieving at least the lands between the Sui and the old Yellow River bed from flood conditions, and as it would be built for their benefit they would repay the cost. The area to be benefited is estimated at 10,200,000 mow, or 1,700,000 acres. To the cost of the main channel should be added the cost of the local connections, which could probably be provided by local effort, but should be constructed under competent direction and in accordance with approved plans.

It must not be expected, however, that these works will entirely prevent the flooding of the lands benefited. When 5 to 25 inches of rain fall in one storm upon plains as flat as these, no practicable works of man can prevent the submergence of the land. The most that can be done is to provide large and free outlets, so that the waters may run off quickly before they have killed growing crops. This will curtail both the magnitude and duration of the floods, and, with reasonable local care in making connections with the drains and in protecting harvested crops, the damage would be largely avoided.

General Benefits from the Project

The region to be chiefly benefited is the area bounded on the north by the old bed of the Yellow River, on the east by this old bed and the Ming Dike; on the south by the southern margin of Hungtse Lake and the Huai River; and on the west by the Tientsin-Pukow Railway. The upper Huai River and its tributary valleys will be but slightly affected by the proposed works.

Substantial benefits will also accrue to the agricultural land east of the Grand Canal, which was this year and is frequently inundated by the excess water from the Grand Canal, and is as often short of irrigation water. Both these conditions will be removed by the proposed works, and all the country served by the Grand Canal will benefit by the improved navigation.

The lands to be directly benefited by this project may be divided into 5 districts, on the basis of the character, amount and cost of the said benefits.

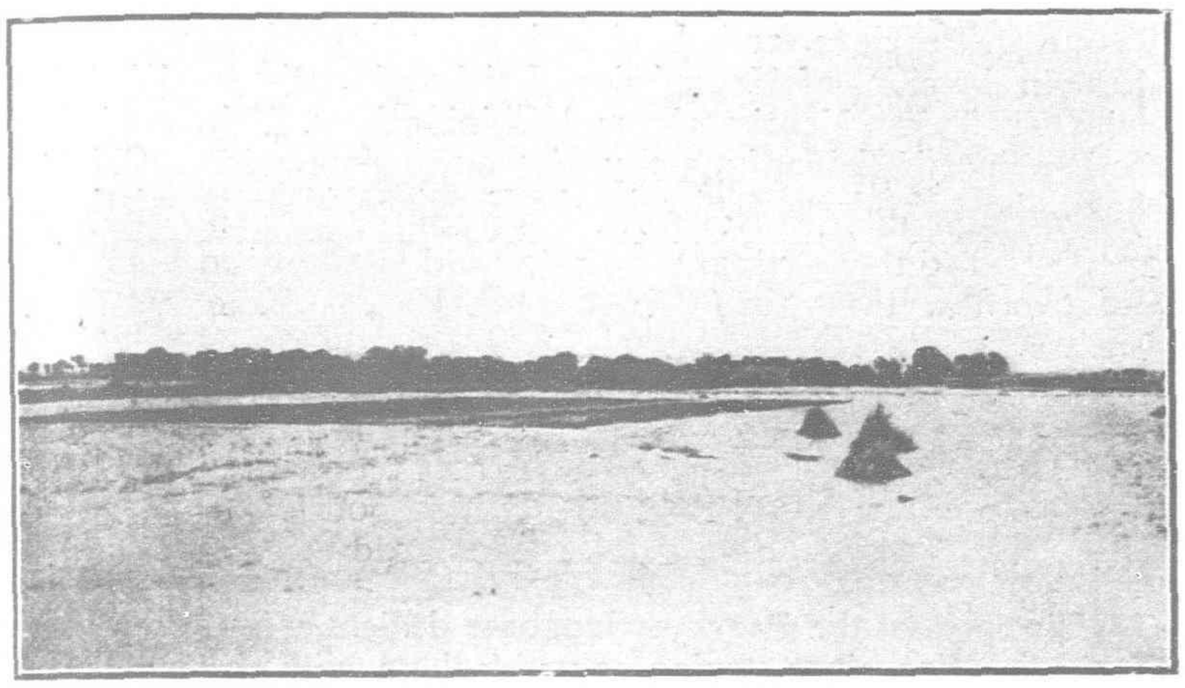
District No. 1.—Lands which will be reclaimed and irrigated. This includes the greater portion of the bed of Hungtse Lake, and comprises an area of about 350,000 acres, or 2,100,000 mow, valued at at least $75.00 per acre.

District No. 2.—Lands which will be reclaimed, but not irrigated. This includes the northeastern portion of Hungtse Lake, an area of about 36,000 acres, or 216,000 mow, valued at at least $50.00 per acre.

District No. 3.—Lands around Hungtse Lake which have been mostly cultivated but subject to frequent inundations, and

which will be protected from overflow and provided with drainage channels. Estimated area 300,000 acres, or 1,800,000 mow; benefited at least to the extent of $15.00 per acre.

District No. 4.—Lands heretofore cultivated which will be provided with main drainage channels for the escape of all flood waters. This class includes the area bounded on the north by the old bed of the Yellow River, on the east by the old bed of the Yellow River, Hungtse Lake and District No. 3; on the south by the Huai River, and on the west by the Tientsin-Pukow Railway, with the exception of a portion of the southern part, which is too low to be relieved by these works. The benefited area in this district is estimated from the best available information at 1,700,000 acres, or 10,200,000 mow, and would be benefited at least to the extent of $4.00 per acre.



FLOOD CONDITIONS ALONG TIENTSIN-PUKOW RAILWAY.

District No. 5.—Lands benefited by the regulation of the Grand Canal, preventing both overflow therefrom and water shortage therein for irrigation. This includes a large portion of the lands east of the Grand Canal and south of the old bed of the Yellow River. The area is roughly estimated at 5,000,000 acres, or 30,000,000 mow, and the entire area would be benefited to the extent of at least $10,000,000.

In addition to the direct benefits, there will be various indirect benefits, of which the most important is the improvement of navigation in the Grand Canal, in consideration of which it is proposed to collect equitable charges for the use of the locks to be provided.

Revenues from the Grand Canal

In so far as the Board could determine, no record is kept of the tonnage on the Grand Canal, and the revenues are so complicated by likin* charges as to be indeterminate. This canal within the conservancy area is the principal transportation route for a thickly-populated country about 150 miles wide and 200 miles long. The tonnage at present on this waterway is large, and with the improvements contemplated could be transported with less than half the boats at present employed, thus decreasing by at least half, the cost of such transportation and leaving boats available for transporting the increased commerce that will result from the improved flood conditions and the cultivation of reclaimed lands. This saving in transportation cost should be collected in the form of tolls until the bonds issued are redeemed.

There should be in the agreement with China a definite statement as to the maximum amount of likin or other charges the Chinese Government will make on boats or cargo while in this canal or other canals built in the prosecution of this work. If the likin and other charges made do not exceed the cost of the transit pass over other transportation routes the revenues that could properly be collected for passage through the canals in question would be relatively large. It is believed that the net income would not be less than $225,000 per annum. The contract should clearly state that the banking houses shall have the right to collect tolls for the passage of boats through the canals and locks built in the prosecution of this conservancy work until the bonds issued for such work are redeemed.

* "Likin" is an internal tax levied upon the transportation of goods.

Taxes on Reclaimed and Benefited Lands

The Chinese Government should agree to apply the entire tax on the reclaimed land and any increase in taxation on the benefited land to the payment of the bond interest and principal. This should net not less than the following amounts:

Reclaimed land, 386,000 acres, at $1.00	$386,000
Benefited land, 7,000,000 acres, at $.25	1,750,000
Total	$2,136,000

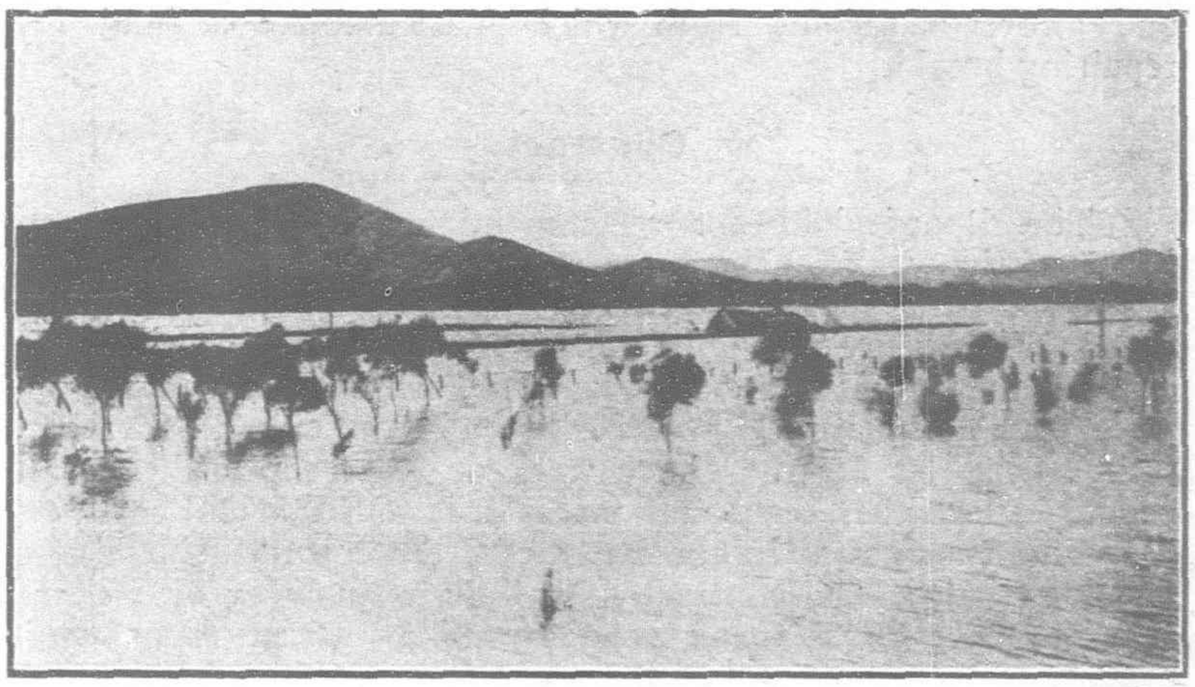
Summary of Estimated Returns.

Value of reclaimed lands in Districts 1 and 2,	$27,050,000
Value of benefits in District No. 3,	4,500,000
Value of benefits in District No. 4,	6,800,000
Value of benefits in District No. 5,	10,000,000
	$48,350,000

There should be received annually at the end of the six-year period of construction:

From the revenues of the Grand Canal and other canals in the area a net return of	$225,000
From taxes on lands	2,136,000
	$2,361,000

The above estimated prices for reclaimed land and values of benefits to be assessed are based on limited information both as to areas, which have been measured from the best available maps, and conditions which the Board has not had the opportunity to investigate in detail. The estimates are believed, however, to be conservative, and may on further investigation be increased. Further extensive surveys and investigation must be made to justly fix the areas which will be benefited and that should be assessed and the actual amount of benefits which will be derived. Unless essentially such benefits can be collected the project cannot be made to pay for itself. As a further preliminary to financing the project, the method of assessment and collection must be elaborated and the Chinese Government must agree to collect specific benefits at least equal to those estimated and to meet any deficiency which cannot be so collected.



SCENE IN FLOODED AREA IN KIANGSU PROVINCE.

The benefits will accrue on the completion of the work at the end of the six-year period; but the manner and terms on which the land will be sold and the disposition of the funds received from such sale and those collected as benefits, in such a way that, with the fixed revenues, they will meet the interest on the bonds and pay them when due, are questions which the Board will not attempt to discuss. The term of the bonds should not be greater than the time required for construction, plus the period in which the reclaimed land will be paid for and the benefits collected.

Cost of Project

The works recommended are estimated to cost about $30,000,000, U. S. currency. They can be economically completed within about six years after the beginning of construction, provided funds are available as needed, and the work is

vigorously prosecuted. If the bonds issued bear 5 per cent interest, and are sold at ninety cents on the dollar, and if 3 per cent can be secured on unexpended balances, the total issue to cover discount and interest during a six-year construction period will amount to $45,000,000.

On the basis of the benefits estimated above and the returns from canal tolls and the taxes suggested it is believed that a satisfactory method for financing the project can be devised.

Operation and Maintenance

The locks recommended will require attendants to operate them and will need care and occasional repairs, all of which can be paid for by a portion of the receipts derived from their use. The estimates of the net revenues therefrom are made with this policy in view.

The controlling works in the canals will also require similar attendants, but as these occur only at two points separate from locks, the extra cost will be small. The canals themselves, although of enormous length, do not have the complications often found in canal systems, such as side-hill locations, sharp curves or high velocities, and they are mostly too deep to permit aquatic plants to grow on their bottoms. The clearing of weeds from their banks, so expensive in America, is obviated by the practice of the Chinese people of gathering all such vegetation for forage or fuel as soon as it is available.

The dikes must be patrolled, especially just before and during the flood season, to guard against the attacks of burrowing animals and other dangers, since a break at flood time would be very serious.

Some provision for these expenses should be made in the contract with China. Probably the simple duties of caring for the small channels could be assumed by the riparian owners of land under contractual arrangement with them when the lands are sold, reserving suitable powers for the enforcement thereof, and the cost of the other work should be also provided for.

No precedents are available from which to estimate the cost of such work in China, but it is believed that an allowance of $200,000 per year would cover the necessary regular outlay and afford a surplus from which to accumulate a fund for repairing breaks.

Contract

The Board does not recommend a percentage contract. Much of the work can be more economically done by contracts for work of a specified character. There is no incentive for speed or economy when the contractor receives a specified per cent of the actual cost, and the Chief Engineer under such an arrangement is practically powerless to secure either. Should a contract be let for the entire work or a large part thereof, it should be let either on a unit price basis or for actual cost plus a specified amount. In the latter case the contract should also provide that if the contractor shall show inability or lack of due diligence in securing economy of construction or shall attempt to secure other than the specified profit the contract shall be nullified.

Supervision

The Board is of the opinion that the Chief Engineer should have complete authority as to plans of work and methods of doing same, but that after he has completed plans in sufficient detail for work to actually commence, such plans should be passed upon by a Board of Engineers, this board to be named by the banking houses which may finance the work. The work is too large and important and an error of judgment of too great consequence to be left entirely to the judgment of one man.

Thereafter an annual inspection and report should be made by an engineer or Board of Engineers acting in an advisory capacity to the Chief Engineer, the selection of such engineer or engineers to be made jointly by the banking houses and the Chief Engineer. In addition, the Chief Engineer should have the privilege at any time to ask the advice of one or more engineers expert in the particular problems when their importance seems to him to warrant such action.

WM. L. SIBERT.
DANIEL W. MEAD.
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Major General GEO. W. DAVIS, U. S. A., Ret.,
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FOREIGN-GOODS SHOPS IN SHANTUNG CITIES

BY COMMERCIAL ATTACHE JULEAN H. ARNOLD

A recent tour of the Chefoo consular district embraced most of Shantung Province, and I visited the principal foreign-goods shops in the cities of Huanghsien, Laichowfu, Pingtu, Weihsien, Tsinanfu, Taian, Yenchowfu, and Chiningchow. The capital of the Province is Tsinanfu, a city of 250,000 population. Chiningchow, the next largest city in the Province, has a population of about 125,000. The other cities mentioned range in population from 40,000 to 100,000.

Tsinanfu, a treaty port, has a good number of foreign-goods shops. Chiningchow, on the Grand Canal, has a half dozen stores which retail foreign goods. Huanghsien, Laichowfu, Weihsien, Pingtu, and Yenchowfu each have two to six foreign-goods shops. Probably none of the foreign-goods shops in the cities mentioned carry more than $1,000 to $2,000 worth of stock, and many carry stocks valued at less than $1,000.

Throughout the Province Japanese dealers canvass the shops of the interior cities, trying to stock them with cheap Japanese wares. The greatest Japanese business now is supplying cheap foreign headgear—hats and caps. Cheap Japanese toothbrushes, tooth powders, patent medicines, toilet articles, perfumes, soaps, etc., are found in nearly all the so-called foreign-goods shops.

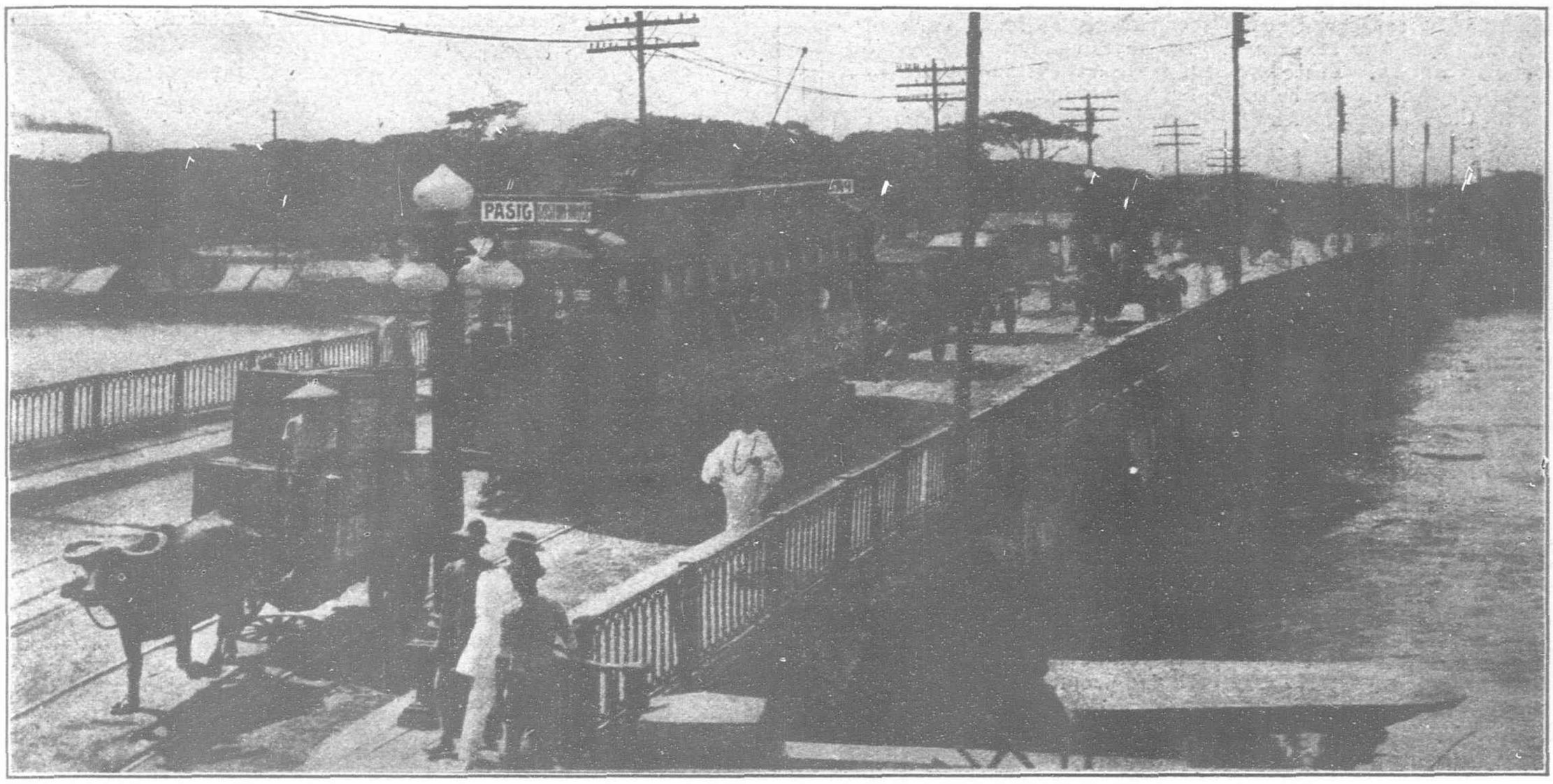
Japanese patent medicines are evidently sold in enormous quantities, judging by the amount of advertising done. Cheap enameled kerosene stoves, with combination enameled boilers of German and Austrian make, are selling in numbers throughout the Province. One foreign product sold in increasingly large quantities each year is condensed milk. One American manufacturer of underwear, whose goods are advertised in Chinese throughout Shantung, does a large business. With the advent of foreign clothing the sales of foreign apparel, of sewing machines, buttons, socks, collars, hats, and caps have increased enormously.

Foreign soaps, candles, dyes, lamps, hardware, needles, pins, and buttons are carried in substantial quantities in the foreign-goods shops. Foreign tinned biscuits and tinned and bottled candies are also finding a good market. Cheap foreign stationery and school supplies begin to appear throughout the Province and cheap gramophones, mostly of German and Japanese manufacture, are selling in considerable numbers.

In practically all the cities of over 40,000 inhabitants there are one or more foreign sewing-machine agencies, generally stores neatly fitted up with show and demonstration rooms. Cheap watches, clocks, and jewelry exist in all the general foreign-goods shops. The Chinese are fond of bright, showy things, so that the more decorative and ornamented they appear the better sale they command.

Foreign manufacturers are learning to furnish their wares to the Chinese with labels, directions, and advertising matter in the Chinese language, which after all is the only successful way of reaching this market. Many foreign concerns have inaugurated extensive advertising campaigns in Chinese throughout the interior cities. Cigarettes, candles, patent medicines, condensed milks, sewing machines, gramophones, underwear, beer, biscuits, anti-opium pills, dyes, kerosene, and soaps are extensively advertised in the Chinese language throughout the cities of the Province.

A favorable attitude has been produced in the minds of the people toward things foreign, and those foreign dealers who will put up their goods to meet the Chinese fancy, and put them up under Chinese labels and with advertising matter and directions for use in Chinese will find a constantly increasing market for their goods among the Chinese people.



Courtesy Bureau of Public Works

TRANSPORTATION ACROSS THE BRIDGE OF SPAIN

The flood of September 2, 1914, wrecked the center pier of this bridge, blocking both the water and the land transportation at this point. A new bridge is now being completed and is open for traffic.

TRANSPORTATION METHODS IN THE PHILIPPINES

By O. Garfield Jones.

IN THE PHILIPPINE CRAFTSMAN

Unthinking people sneer at certain methods of transportation as being "out of date." The chauffeur grins at the cochero as the auto shoots past the slow-moving carromata. A half hour later the cochero returns the grin as his sturdy little pony passes the stranded auto with the sweating, swearing chauffeur flat on his back under the machine. The cochero puts on a superior smile as he overtakes the carabao and sled, but when he reaches the bad road a little farther on he loses the superior attitude and waits meekly for the carabao and sled to haul him through the mud.

There are four factors in every transportation problem, and the determination of what is and what is not "up-to-date transportation" must always depend upon these four factors taken together. The first is the kind of goods to be transported, the second is the amount of goods to be transported, the third is the distance that the goods must be carried, and the fourth is the kind of surface over which the carrying must be done.

Suppose that during the wet season a certain farmer has a quantity of rice in the center of a rice paddy country that is devoid of roads. The only way to get that rice to market is to put it on the back of a cargador, on the back of a carabao, or in a carabao sled. Nothing but a cloven-hoofed animal can pack a load through deep mud day after day and keep in health. Man himself cannot do it; the suction on his feet is too great. If the cargador can compete with the carabao under these circumstances, it is because the cargador can pick his way and avoid the worst places. In the United States where horses and automobiles are everywhere, there are still some communities where oxen must be used in the wet season for heavy pulling, such as logging over mud roads. The cloven-hoofed draft animal will not soon disappear in a rice country having a hundred inches of rainfall.

The cargador is a primitive means of transportation that is not now and probably never will be out of date. If a man in New York City wants to send a trunk to a barrio in Benguet, the steamship will carry it most of the distance, the railroad will take it a part of the way, the auto truck and the carabao cart may haul it a few miles, but the first and last steps in the journey will be on the shoulders of a cargador. With all the modern means of transportation available in New York City, the only economic method of getting a single trunk from a residence to a cart or auto truck is for a man to carry it on his back.

This illustration shows how the four factors of transportation above mentioned determine the means to be employed. First, the size and shape of the trunk are such that a pipe or trough cannot be used economically to slide it to the cart as is done with coal and grain. Secondly, there is only one trunk; consequently a special kind of conveyer for sliding out trunks cannot be economically used. Thirdly, the distance of transportation from the second story of the house to the cart at the front door is too short to warrant the use of any method of transportation that involves extra expense. Fourthly, the surface over which the trunk has to be transported is a polished floor and a stairway. Cargador transportation is the only means that is satisfactory for this surface.

Thus, where there are only a few pieces of freight to be transported, the surface irregular, and the distance short, the method of transportation is easy to determine. But when the amount to be carried is large, the surface factor is not decisive, because the surface may be changed. If the man in New York has 10,000 trunks to ship, he will save money by building a slide from the second floor of the house to the truck so that one man at the top to push the trunks on to the slide and one man at the bottom to arrange them on the truck can load trunks faster than six men can carry them down the stairs on their backs. Likewise, if the Filipino farmer has 10,000 cavans of rice in the center of the above-mentioned rice paddy region, he will save money by digging a little canal from his granary to the river, or by building a firm road of some sort from his granary to the main road, so that he can haul twice as large a load each trip the carabao makes.

The farmers of Jaro in Leyte Province used to pay Pesos 23 to have 4 piculs of hemp hauled by carabao cart to Carigara and 4 piculs of rice hauled back to Jaro. A first-class road was built connecting these two towns in 1912. Now a carabao cart makes the round trip for P.3, carrying 10 piculs each way. With the poor road the cost of hauling was practically P.3 per picul. The good road has reduced the cost to 15 centavos a picul, a reduction of 95 per cent.*

The quantity of freight to be hauled helps to determine the kind of surface over which it will be carried. The marvelous growth of railroads in the Mississippi Valley of the United States is an illustration of this principle. There were millions of bushels of wheat and corn there to be hauled, and the cost of building railroads, great as it was, was small as compared with the money the farmers were willing to pay for the transportation of their grain.

The question naturally arises as to whether the converse of the above proposition is true, viz, Does the ease of transportation determine the amount of goods to be hauled? The answer is that it does not do so immediately, but it does in the long run. In the early history of the United States the

* Picul=139 pounds. Peso=50 cents, U. S. Cy.

farmers of western Pennsylvania made all of their surplus corn into whisky, because transportation to the markets at New York or Philadelphia was too expensive for anything but high-priced products like whisky. There are still large valleys in the Rocky Mountains where cattle can be raised but where the cattle man will not go until the railroad comes near enough so that the cattle can be shipped to market. There are municipalities in the Philippines where there are no stores or markets and where the people only expect to raise enough food for their own family consumption. It is needless to say that such municipalities do not have good transportation connections with the outside world.

A community might have every variety of transportation and still not have cheap freight rates, because of the various methods not being properly organized. The proper handling of a corn crop, for instance, requires, first of all, men to harvest the corn, and wagons and horses to haul it to the big granaries in the nearby town. These granaries have a system of conveyers that automatically carry the corn from the corn bin to the freight car outside. If the empty freight cars needed are readily furnished by the railroad company and if the trains connect on to them as soon as they are filled, the transportation is perfect. The corn will be delivered in the market at the most favorable time, and thus will bring the very best price. But if there is a flaw in this transportation chain; if there are not enough men to harvest the corn, or not enough horses, wagons, or auto trucks to deliver the corn to the granary; if the granary conveyers are broken so that the freight cars cannot be loaded quickly; if the empty freight cars are not available or the trains do not haul away the cars when they are filled; if any one step is held up, then you have a situation where there are people wanting to buy corn and people with corn to sell, and still no corn being sold.

The present European war has brought out very forcibly the evil results of a break in this transportation organization. As soon as war broke out, German cruisers went out to capture English and French merchant ships, and English cruisers went out to capture German ships. As a result the merchant ships were afraid to leave port. Immediately the scarcity of foodstuffs began to be felt in Europe, in spite of the fact that the American farmers had just harvested the biggest wheat crop in their history. The railroads of Europe were running the same as ever, and so were the railroads in America. Only one link, that of ocean transportation, had been broken; but that one link was enough, because it severed the transportation chain that connects the wheat fields of America with the food markets of Europe.

The Philippines are suffering from this war for the same reason. The Philippine customs receipts have fallen off very seriously, not because the Filipinos have stopped buying European goods, but because Europeans have stopped sending goods here to sell. They have no ships that they can use for shipping their goods here. If the war continues long enough, the neutral countries like the United States, Spain, and Latin America will buy or build ships sufficient to reorganize the ocean transportation and thus permit the international transportation chain to be connected up again.

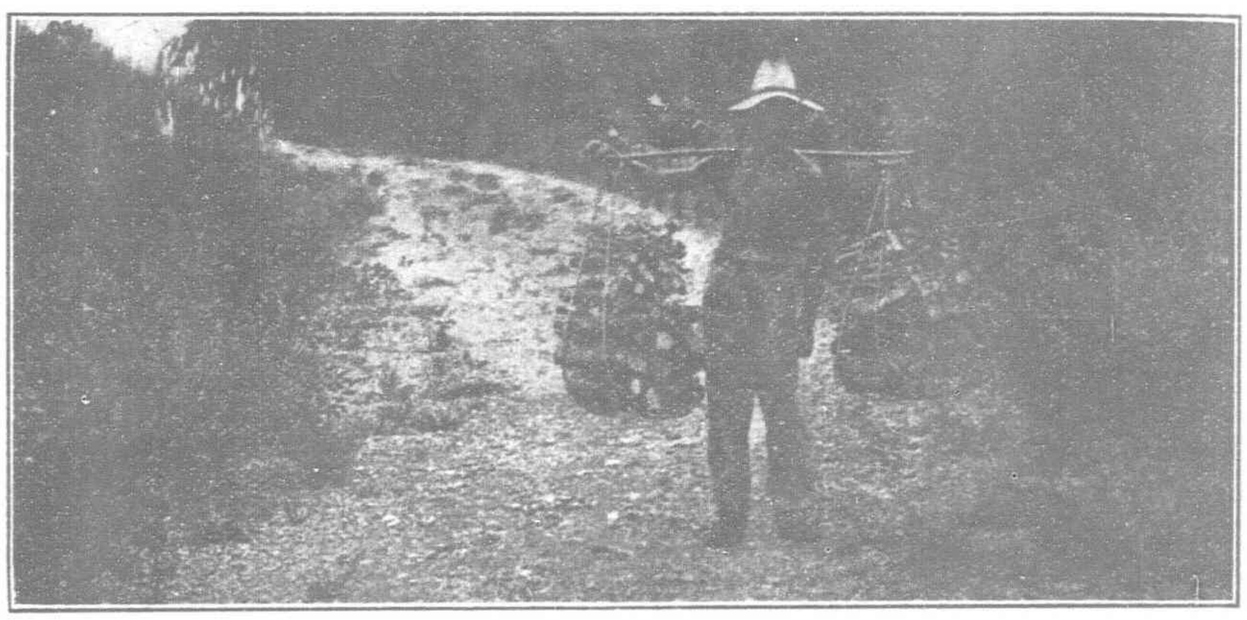
Perhaps the best example of well-organized transportation is the Post Office Department of the Government. It uses cargadors, carabaos, horses, carts, wagons, auto trucks, barotos, sailboats, launches, and ships. For 24 centavos it will carry a kilo of cloth to New York City; for 4 centavos it will carry a personal letter to New Orleans; for P1.50 it will guarantee the safe delivery of the P200 you wish to send to your friend in Chicago. Because of the great quantity of freight handled, it can carry economically almost any kind of goods in almost any quantity. The Post Office Department does not sneer at the carabao or baroto. It knows that there are places where the carabao is the fastest and the baroto the safest method of carrying things. With this understanding of transportation methods and organization, we are in a position to study the various means of transportation employed in the Philippine Islands.

The cargador is perhaps the most primitive method of transportation. Man certainly carried goods himself before he learned to employ animals to carry them for him. Cargadors carry things differently in different countries. The American or European carries his packages in his hands or arms; if he is a hunter or peddler, he may carry his pack on his back. The Oriental cargador usually carries his load in two bundles—one at either end of a balancing pole that teeters on his shoulder. There can be no doubt that this Oriental method is the most efficient where the carrying is for any distance and the road is passable. The variations of cargador transportation, such as the sedan chair, the hammock, or the holding basket involve no new principle of transportation and therefore need not be discussed here.

The pack animal is another primitive method of carrying. This method is in common use in certain parts of the Philippines, especially in the Mountain Province and in Agusan. Pack animals have the advantage of being adaptable to every kind of surface. A pack horse or carabao can follow a narrow trail, ford a stream, plunge through a mud hole, or travel over a first-class road without injury to the surfacing. The disadvantage is that the animal cannot carry half the load on its back that it can pull in a sled on a mud road or in a cart on a good road. In short, packing does not secure the maximum use of the transporting power of the animal.

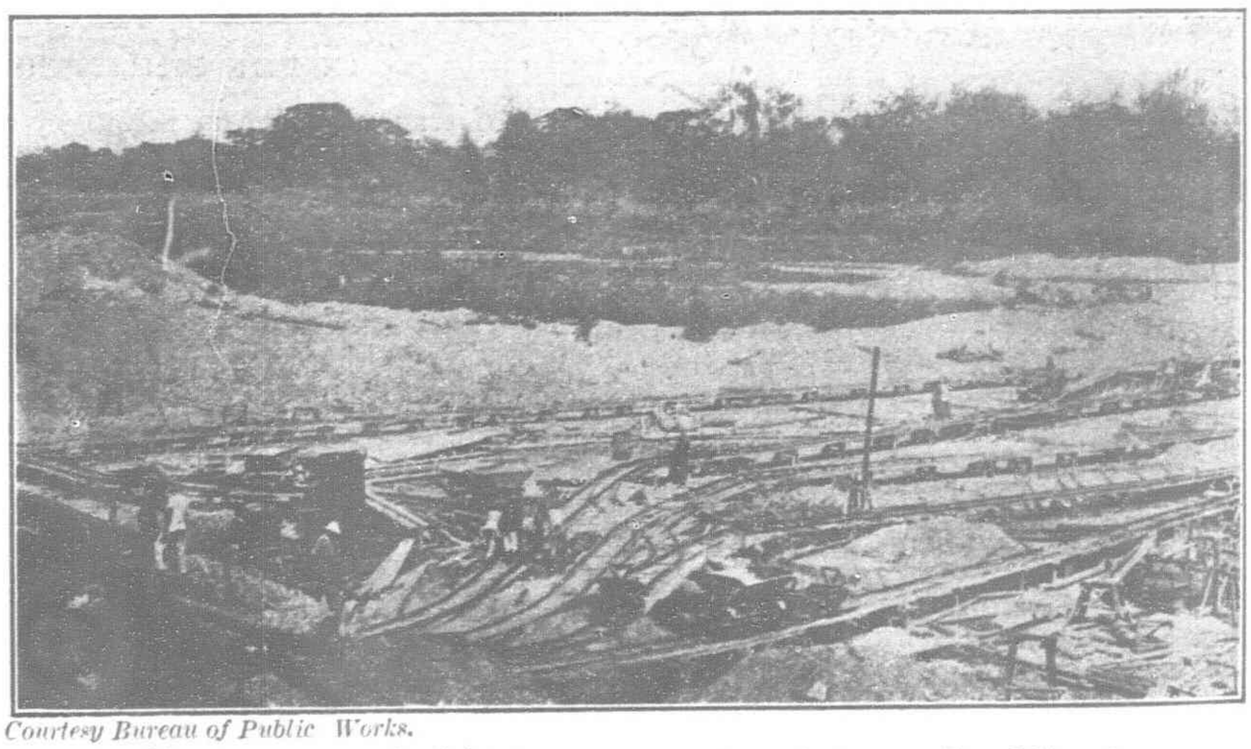
Courtesy Bureau of Education.

Train of bull carts drawn by Carabao.



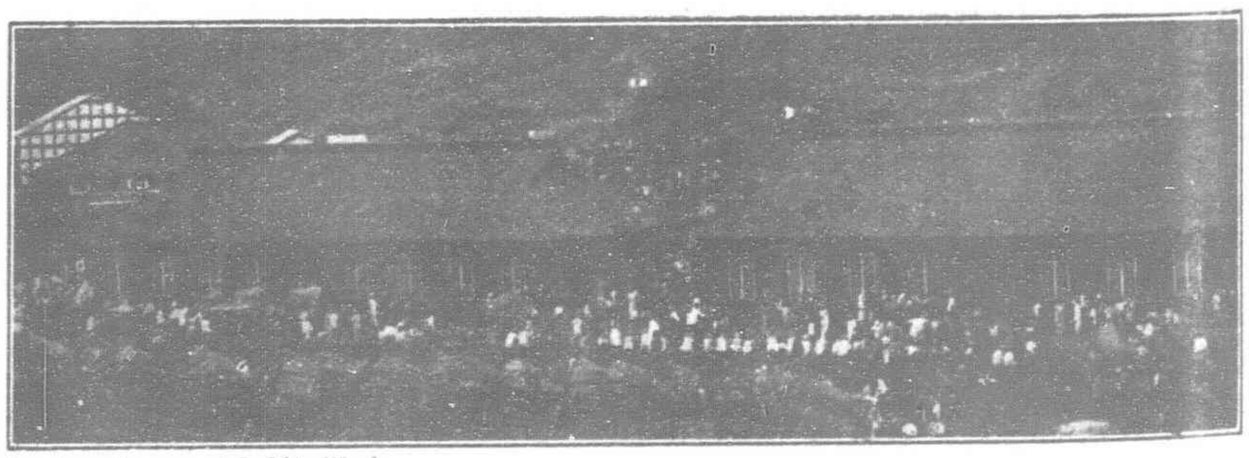
Courtesy Bureau of Public Works.

The cargador with his pinga."



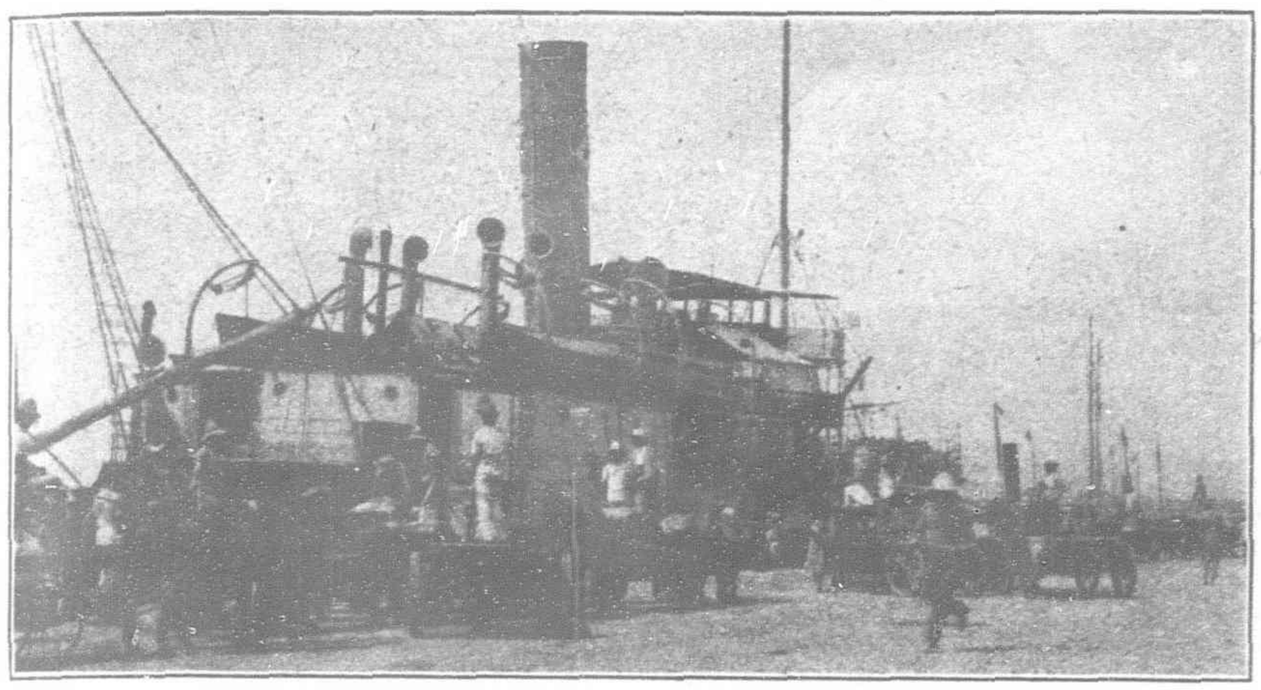
Courtesy Bureau of Public Works.

Temporary tracks laid for construction of dam at San Miguel irrigation project.



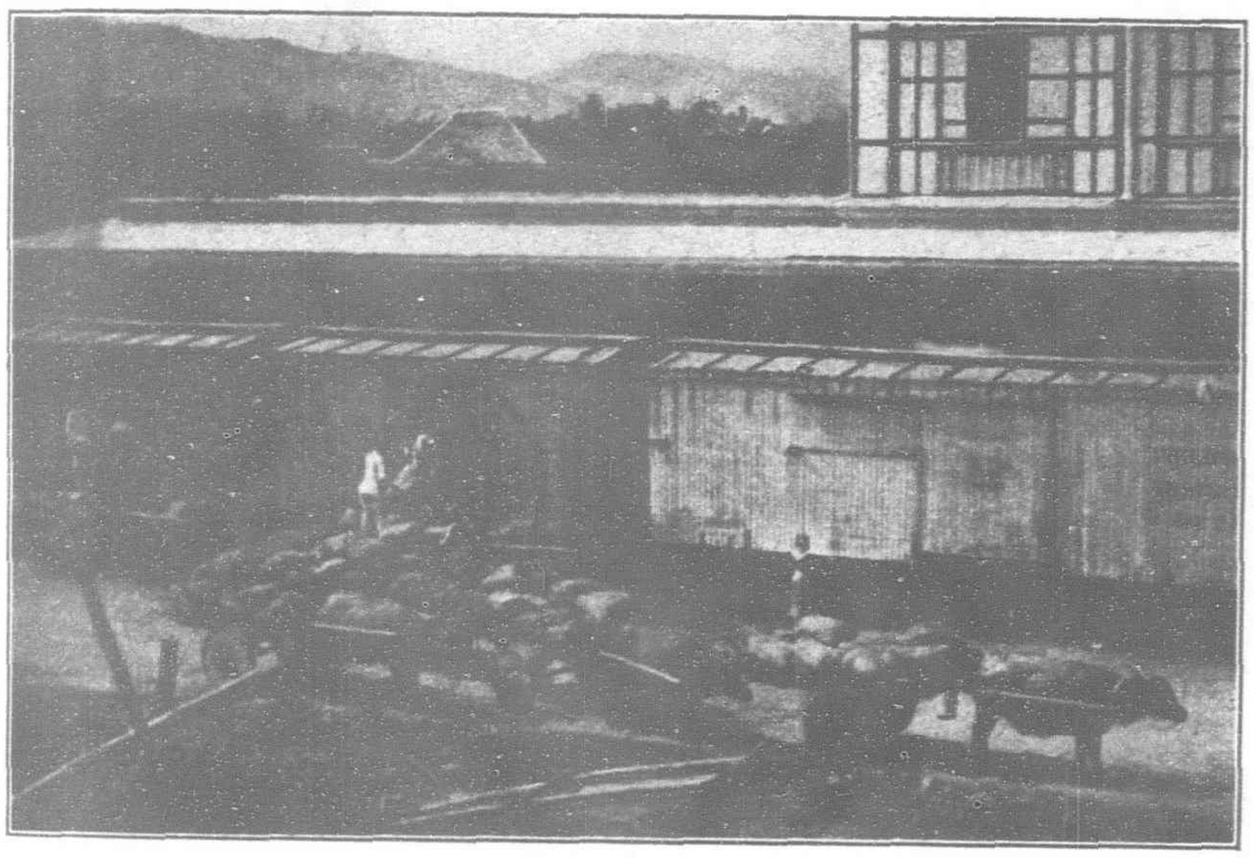
Courtesy Bureau of Public Works.

Baguio market. Without transportation facilities there could be no markets.



Courtesy Bureau of Education.

At the dock in Cebu.



Courtesy Bureau of Education.

At the freight station in Cebu.

Courtesy Bureau of Education.

Cargadors carry both passengers and freight.

There are many kinds of sleds in the Philippines. The most primitive one consists of two poles with a cross piece, the trailing ends of the two poles serving as runners. It was common among the American Indians under the name of travoix. An improvement on this is the one that has a square or rectangular bed fastened onto the long poles and then two short poles slanting from the rear end of the bed as the rear runners. An interesting modification of this sled is the one used for fording deep streams. The four poles that serve as runners are from 3 to 6 feet long, thus putting the bed of the sled some 3 or 4 feet off the ground. The most common sled is the one with two horizontal runners. This sled is usually some 5 or 6 feet long with runners from 2 to 4 inches wide. The American mud boat, a sled with very wide and very long runners, is not used in the Philippines.

Sleds are the only satisfactory transportation for mud roads and fields. Furthermore, for very soft ground the carabao is the only satisfactory animal to pull the sled. The trouble with sleds is that the friction is so great on a hard road that they are not economical. They require mud as a lubricant. The road authorities object to sleds because the farmers are always crossing the roads with them to get from the field on one side to the field on the other, and in so doing the front ends of the sled runners tear the shoulder away from the road. Where many sleds have to cross the road, the caminero builds a special roadway from the road to the field on either side so that no damage will be done by the passing sleds.

Carts are the simplest type of road vehicle. They are of two kinds, viz., those with rigid axle and those with free axle. The rigid-axle type have nothing in their favor except cheapness of construction, because the rigid axle compels one wheel to slide at every turn of direction of the cart and thus the iron tire tears and grinds the stone surface of the road. This type of cart is prohibited by law and by public opinion.

The free-axle carts are divided into the wide and the narrow tire classes, a wide tire being one 3 inches or more in width. The narrow tires are prohibited on first-class roads and should be prohibited on all roads, because the softer the road the more they cut it. Like the rigid-axle cart, the narrow-tire cart has no advantage except its smaller original cost.

Wagons are not used very much in the Philippines. Wagons require good roads and are more expensive. They are more convenient than carts and are easier on the roads, because the load is distributed on four instead of on two wheels, and they grind the road less on turning than a two-wheeled cart.

Wagons, and particularly auto trucks, should be encouraged in the Philippines, not that they may replace the carabao, but rather that the carabao may be relieved of road transportation in order to be free to do the sled hauling, the plowing, and other draft work in the mud for which the carabao is especially fitted. For these operations there is such a scarcity of animals at present as to hold back the agricultural development of these Islands.

A rough estimate made by the Bureau of Public Works in 1909 gives a total of 76,000 sleds, 22,000 narrow-tired carts, 14,000 rigid-axle carts, and 30,000 wide-tired carts. For several years the Government offered special inducements to those who would use wide-tire carts, and the wheelwrighting department of Bilibid Prison used to make large numbers of wide-tired wheels for the provinces every year. At present the number of black-smithing and wheelwrighting shops have increased so much in the provinces that relatively few orders are now sent to Bilibid Prison for these wheels, although the number being used in the provinces is increasing every day.

In 1909 there were very few autos and auto trucks in the Philippines; to-day there are 355 auto trucks, 1,933 automobiles, and 818 motorcycles. About half of these motor vehicles are outside of Manila. The rapid growth of the auto-truck lines in the provinces is proof that there is a great demand for this kind of transportation which serves as a connecting link between the municipal transportation system of cargadors, pack animals, sleds, and carts and the inter-island system which consists of ships. Railroads serve as this connecting link in some places, but railroads are so expensive in construction and maintenance that they are economical only when the amount of freight to be transported is very large. The geographical formation of the Philippines, which consists of a large number of small valleys separated by high mountains, makes the use of railroads absolutely impracticable except in a few places like central Luzon and central Panay.

One great advantage of a road over a railroad is that it is more democratic. Railroads in the United States have made and unmade cities by arbitrarily lowering and raising the freight rates. In the case of a public road, the farmer can have his grain hauled by the auto-truck companies if their rates are low, but if they raise their rates in order to double their profits, the farmer can buy, rent, or borrow carts and haul his own grain to market.

Transportation from Ibajay in Capiz Province is by water. Two companies buy copra there and about twice a year a ship stops off shore to get this cargo. As no other boats stop there, the Ibajay farmers must sell their copra at the prices offered by these two concerns that have occasional transportation. Calivo is farther from Manila than Ibajay, but Calivo has a good port and has available transportation to Manila almost every ten days. When

the semiannual boat is due to stop at Ibajay the copra buyers pay as much for copra as do the buyers in Calivo, but the situation the rest of the year is illustrated by the fact that from January to July, 1913, the price paid for copra in Calivo was 17 centavos a kilo, while the price in Ibajay was only 10 centavos. The distance between the two towns is only 28 kilometers, and a first-class road is just being completed between them. It does not take much of an expert to figure out what the Ibajay farmer will do if such a difference in price ever arises again. This difference of 7 centavos a kilo amounts to P43.75 on a 10-picul load. The owners of carabao carts or auto trucks would soon get rich if they could get one-third of this amount for hauling 10-picul loads 28 kilometers over a good road. The most of the difference between the local price and the Manila price for copra and hemp is the cost of transportation to Manila. In some cases this difference is so great that the opening up of efficient means of transportation will increase the local price from 50 to 100 per cent.

The building of good roads and the increase of carabao and auto-truck transportation will not only decrease the cost of hauling to the seashore, but also it will decrease the cost of the water transportation. As late as 1908, the interisland transportation system consisted of a number of small steamships that made many stops on each trip out from Manila. The amount of freight loaded at some of the towns was so small that the Government had to subsidize the steamship companies to get them to stop there. The Government was justified in doing this because at that time these towns had no other outlet for their products. Now these outlying towns are being connected with the good port towns by roads and railroads. By means of river, estero, road, and railroad the freight can be concentrated at a few ports, thus enabling the steamships to reduce expenses by making fewer stops and also enabling them to handle this freight more economically by means of docks, cranes, and other devices for decreasing the cost of loading large quantities of freight. It is a universal rule that the cost of transportation per kilo per mile decreases as the amount of goods to be hauled increases.

The necessity for low grades, good bridges, and good surface all the way on a road is just as great as the need for the road itself. Just as a chain is no stronger than its weakest link, just so is a road no better than its worst mudhole, highest hill, or weakest bridge, so far as freight traffic is concerned. In loading a carabao cart for a trip from town A to town B, the thing that determines the size of the load to be hauled is not the amount that the carabao can pull on the best part of the road, but rather the amount the carabao can pull over the steepest hill or through the worst mudhole on the trip. A 2 per cent grade requires twice the pull of a level road, and a 10 per cent grade requires six times the pull. With the ordinary load for a long trip the animal can pull over a 3 per cent grade of average length with great effort; if the grade is 6 per cent, the load must be lessened by a half in order to get over the hill.* It is a waste of money to build a fine surfaced road with steep grades, or a level, nicely graded road with mudholes and weak bridges. The best road is the road that enables the farmer to put the largest load on his cart and haul it all the way to market with one carabao in the least time.

There are at least a dozen roads in the Philippines traversed by more than 1,000 vehicles a day. One big washout, one bad mudhole, one broken bridge, one large landslide will stop every one of these thousand or more vehicles. It is a situation like this that makes the road foreman and the humble caminero feel the responsibility of their position. Maintenance is just as important as construction in road work. One must think of transportation as a continuous procession that goes on and on—as a procession that is formed by individual men or animals that come out of forest, field, and barrio to join the throng on the highway. Anything that impedes the progress of this procession affects every forest, field, and barrio that has contributed a member to the procession.

In the industrial work of the Bureau of Education this problem of transportation has not been ignored. School-made baskets, for instance, have been designed so as to pack into the minimum of space. This result is achieved by making the various baskets so that they will nest or telescope into each other, or fit flat against each other. This care in designing not only decreases the cost of transportation by decreasing the bulk of the articles shipped, but also it decreases the probability of breakage in shipping.

In earlier stages of civilization people live by a self-sufficing economy. That is, each family produces all the things that it needs. In such a civilization there is no need for a transportation system. The Negritos have no use for carabao carts, auto trucks, or steamships, but the Negrito does not get very much out of life. Just as soon as a people begin to have higher wants, they must seek abroad for the means of satisfying these wants. The more civilized a people become, the more specialized are the industries of its individual members. One individual, one family, one company, one community specializes on the manufacture of hats, and finds that it can make them much better and much cheaper than those individuals who try to till the soil, weave cloth, make hats, and build houses all at the same time. But because this family or this community has specialized

*A 2 per cent grade is one that rises 2 meters for each 100 meters of road.

Courtesy Bureau of Education.

Carrying kapok pillows. A means of transportation found in many countries.

Courtesy Bureau of Education.

The hammock is a common means of carrying people, especially sick people, where roads are bad.

Courtesy Bureau of Education.

A stylish method of transportation in the wild country.

on hats, it produces more hats than are needed for local consumption; consequently some of its members must get cargadors, carabao sleds, or auto trucks, load them with hats, and travel into other communities to sell the surplus hats. Also, since this community devotes practically all of its working time to making hats, it has no time left to weave cloth, grow rice, or build houses; consequently this community must find men to build its houses and must buy cloth and rice elsewhere. The Negrito has no use for a transportation system. The specialized community cannot live without a transportation system.

The school teacher must not only teach his pupils how to become specialists in farming, hat making, carpentry, or other industry, but also he must do what he can to see that the local transportation system is developed so that these specialized industries may be profitably carried on. He must teach his pupils that a complete system of transportation for the Philippines requires cargadors, sleds, carts, wagons, carabaos, horses, autos, auto trucks, railroads, barotos, rafts, balsas, cascos, praos, launches, and steamships. Each one is a step in the process that carries goods from the producer to the consumer.

Just as it is necessary that we develop respect for manual labor, because most of the work in the Philippines must be done by manual labor, just so must we develop respect for the sturdy cargador, the plodding carabao, the simple sled, and the humble caminero, because without these the rumbling auto truck, the swift-going railroad train, and the capacious steamship would have nothing to haul. The railroad train can never bring the hemp from the jungle on the mountain side, and the auto truck can never carry the rice direct from the rice field.

The teacher should also help develop the public opinion needed to maintain good roads, by explaining to the pupils the necessity of maintenance as well as the necessity of new construction. The teacher should explain how narrow-tired and rigid-axle carts destroy the roads, and how wide-tired, free-axle carts make the road last a long time; how the saving of maintenance expense on one road makes possible the rapid extension of good roads to other parts of the municipality.

It would be an inspiration to the pupils for the teacher to portray for them in a vivid word picture how the farmer collects the coconut from the tree, how the schoolboy helps his father prepare the copra, how it is hauled to the local copra buyer on a sled drawn by the faithful carabao, how it is shipped on by bull cart, auto truck, or baroto to the port where it is loaded on a steamship for Manila. How many small steamship loads combine to make the cargo of a mighty ocean liner that carries the copra to Marseilles or New York, how it is made into butter and soap there and shipped out in all directions to the consumers, and finally, how a little girl on a Texas farm washes her hands with coconut-oil soap and sits down to breakfast to eat wheat cakes spread with butter made from this coconut oil. The schoolboy will learn his geography more easily if he realizes in this vivid fashion how directly he is connected with the people of the Western World who depend on the people of the Tropics for so many of the luxuries of life.

The transportation circuit might be completed by having the father of this girl pump crude oil from the land of his farm and ship it by pipe line to the refinery where kerosene is made and shipped to the Philippines to furnish light so that the schoolboy can study in the evening after he has helped his father prepare the copra for its long voyage.

The Insular and provincial governments are doing all they can to improve the transportation facilities of the Philippines. In many instances the municipal governments and the individual Filipinos are not doing what they can to improve the roads of their respective communities. There are instances where the municipal council has clamored for provincial roads, when a few boards or a few loads of stone would have repaired the bridge or filled up the mudhole that blocked the entrance to their town. There are large barrios having reasonably good road leading up to them, but having also a large mudhole at the very entrance to the barrio that blocks the way to everything except a barefooted man, a carabao or a bullock. It is not an uncommon occurrence for a supervising teacher to repair a bridge himself in order to pass with his horse. There is a law in the United States to the effect that the mailman does not have to deliver mail to those portions of his district where the roads are in bad shape. If a snowstorm leaves piles of snow across the road so that the mail wagon cannot pass, the farmers must get out and shovel it away or else they will receive no mail until the snow melts. Some modification of this law might be of value in the Philippines.

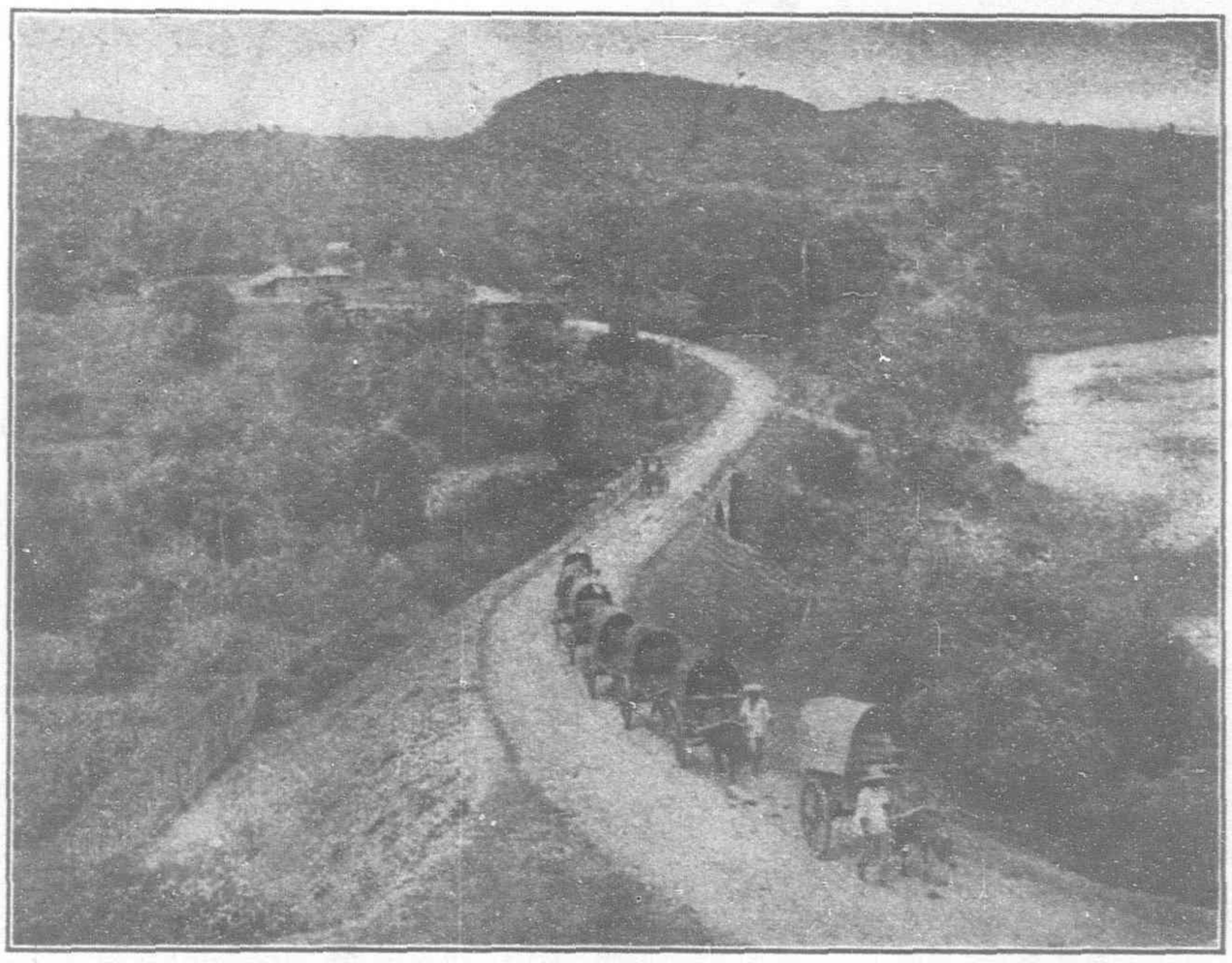
There are approximately 2,234 kilometers of first-class road and 2,025 kilometers of second-class road in the Philippines, all of which are under the direct care of the Insular and provincial governments, but there are at least 12,000 kilometers of municipal roads in various states of repair, mostly impassable to cart traffic, that the Insular Government does not and never can look after thoroughly. The municipal officials, the individual citizens who are most interested, and the school teacher and school pupils should all feel a full measure of responsibility for keeping the important streets and the approaches to the schoolhouse in passable condition for people dressed in good clothes. The municipal officials, the merchants, and the farmers should see to it that the prosperity of the community be not lessened by mudholes and bad bridges that make interbarrio

Courtesy Bureau of Education.

The best way to carry a load through the jungle.

Courtesy Bureau of Education.

The Philippine cow carries tuba instead of giving milk.



Courtesy Bureau of Education.

The main artery of trade into the Mountain Province. Naguilian Road from Bauang to Baguio.

Courtesy Bureau Public Works.

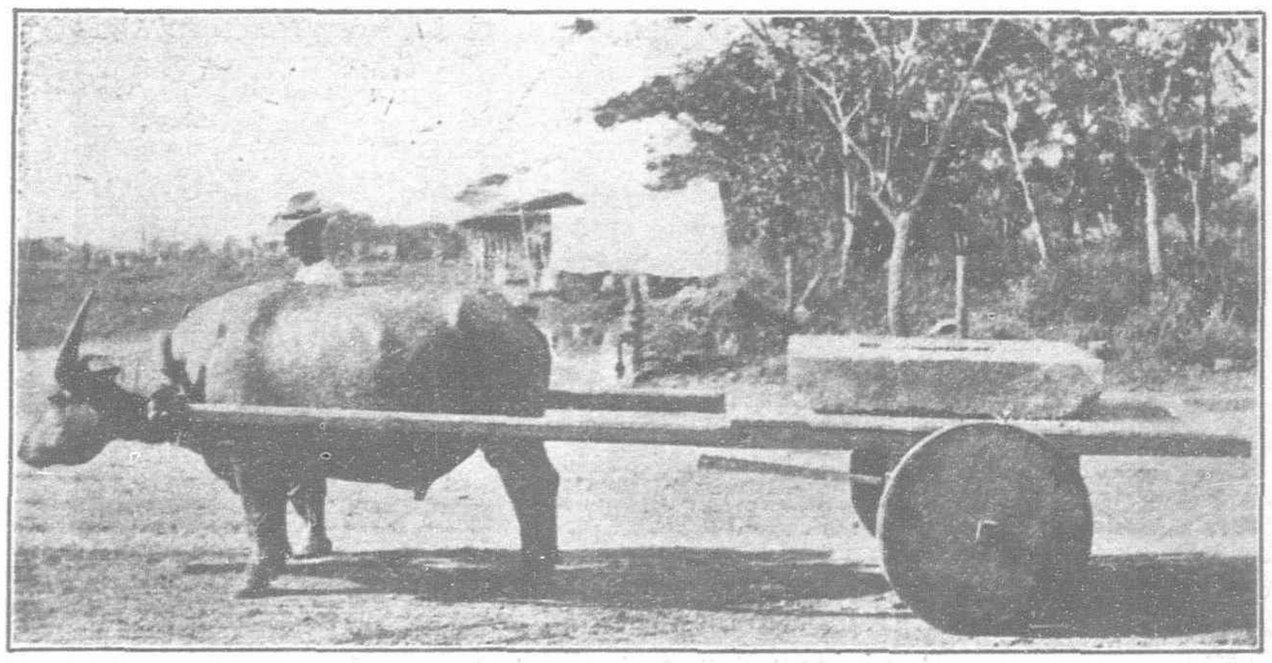
Pack train in Tayabas.

Courtesy Bureau of Education.

Carabao packing hemp and driver.

Courtesy Bureau of Education.

A modification of the travoix found in the Philippines.

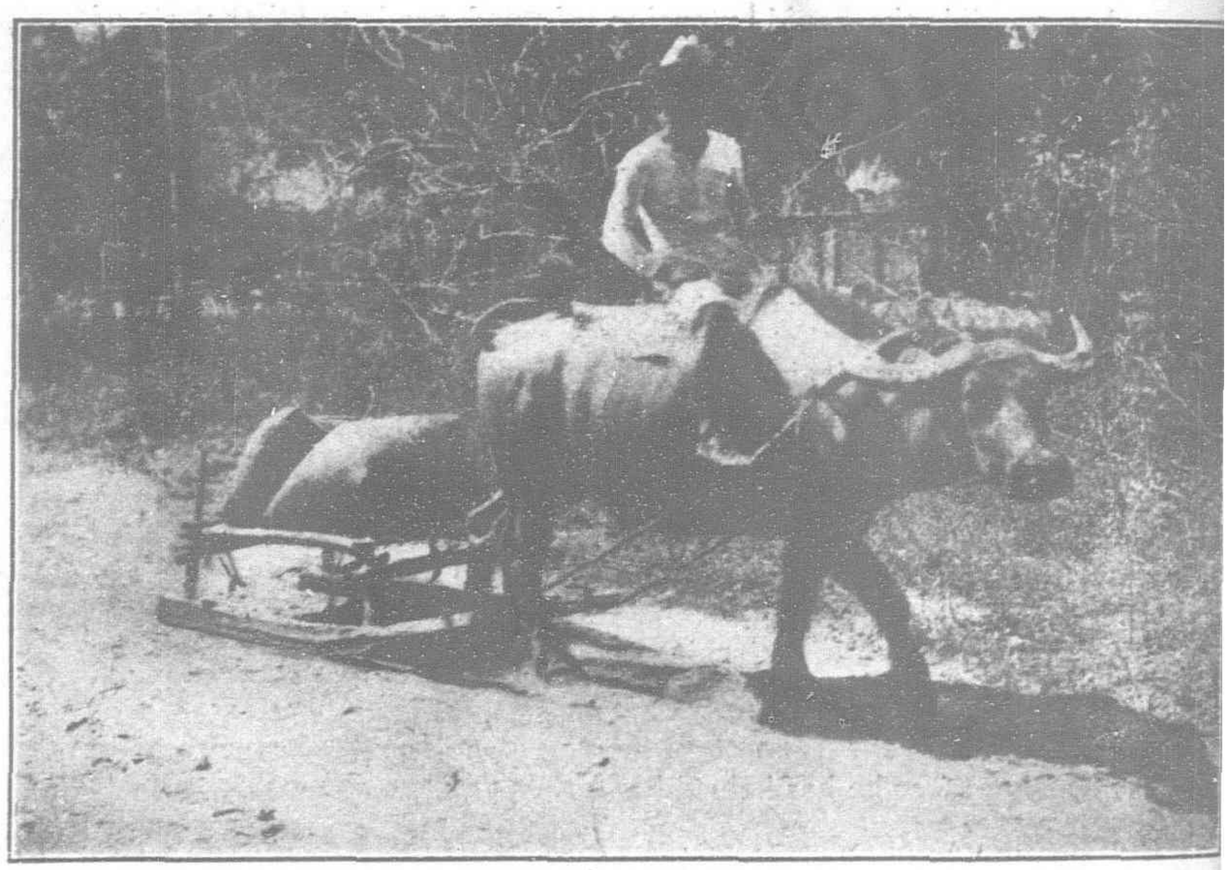


Courtesy Bureau of Public Works.

A rigid axle cart; cheap for the owner but expensive for every one else. Both law and public opinion are rapidly driving rigid ax carts from the Philippines.

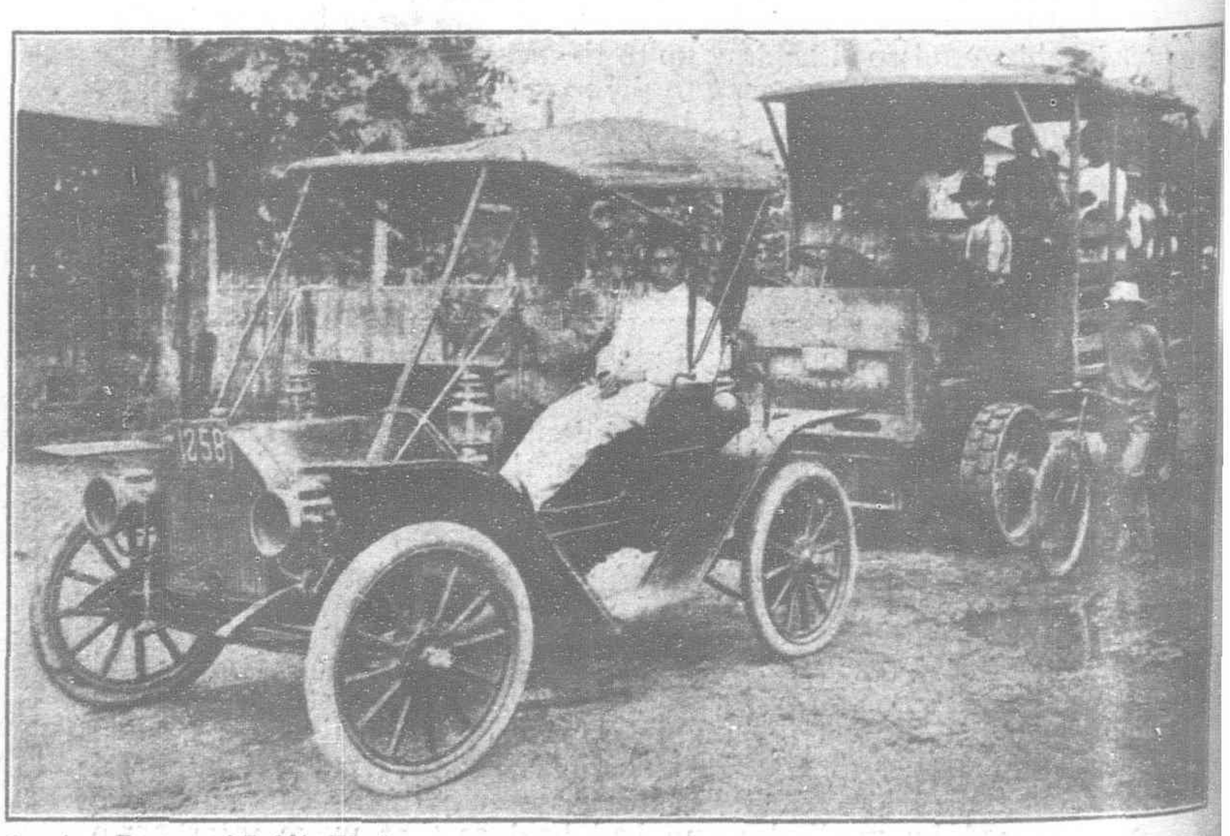
Courtesy Bureau of Education.

A travoix, the most primitive of sleds. Used very generally by the American Indians and occasionally by the Filipino farmers.



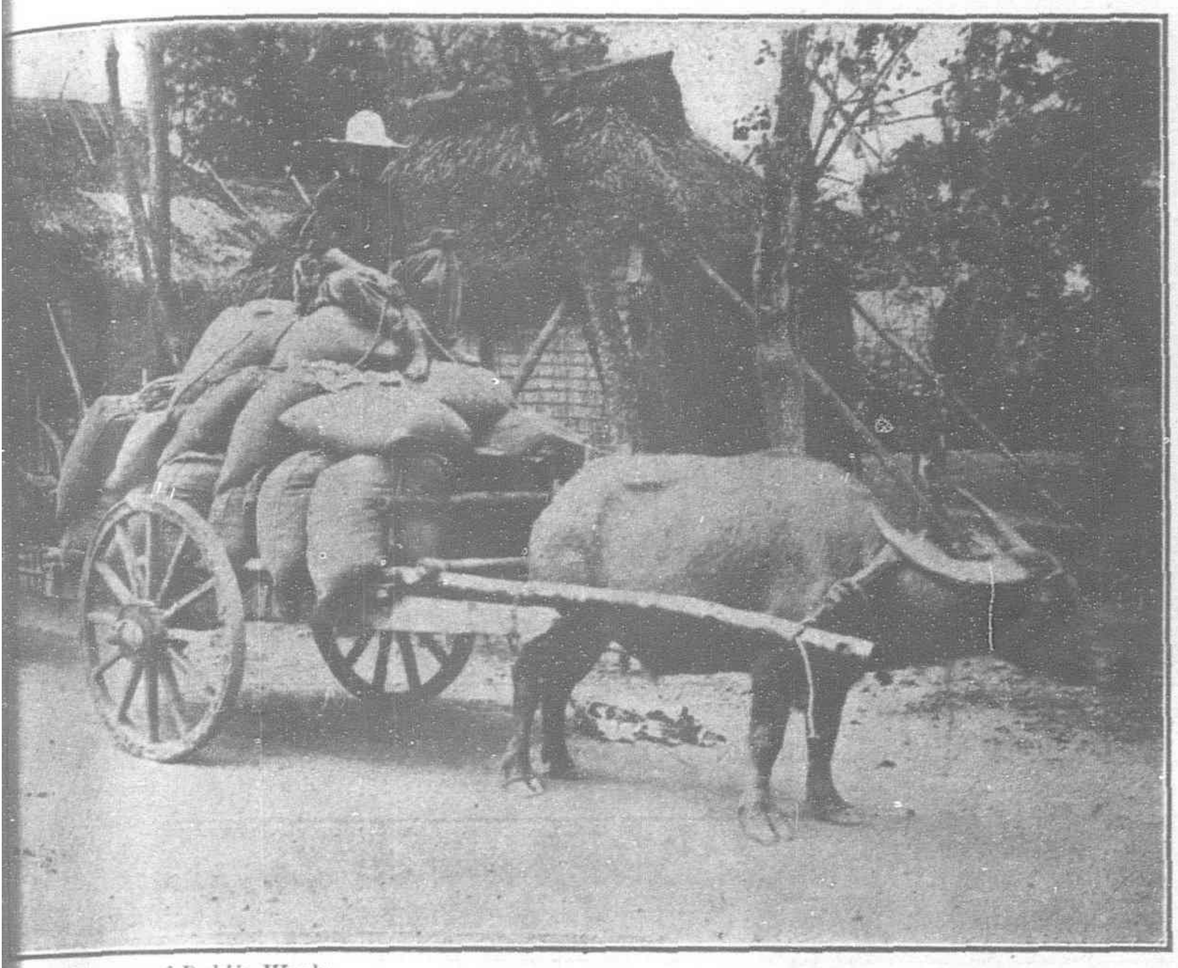
Courtesy Bureau of Education.

The ordinary sled found in many countries.



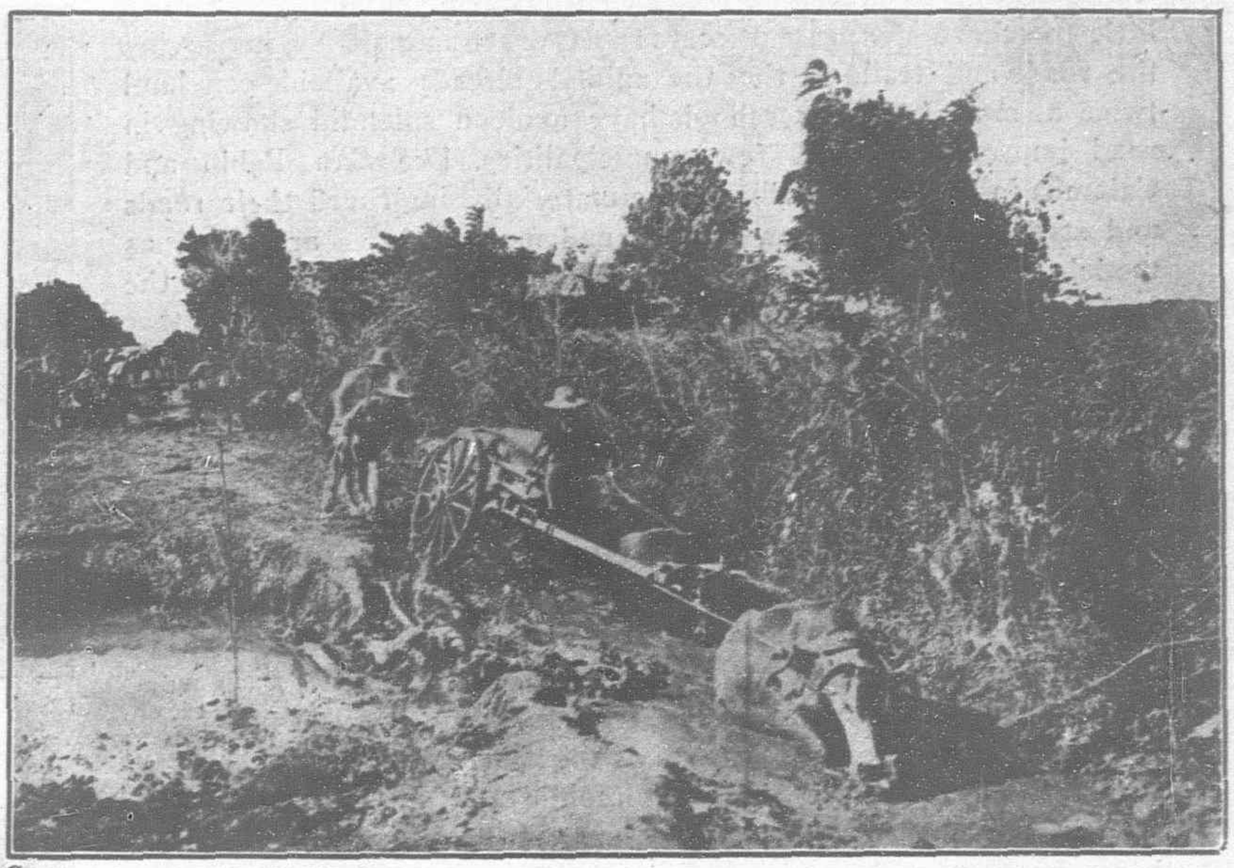
Courtesy Bureau of Public Works.

Three stages of automobile development—the bicycle, the automobile, the auto truck.



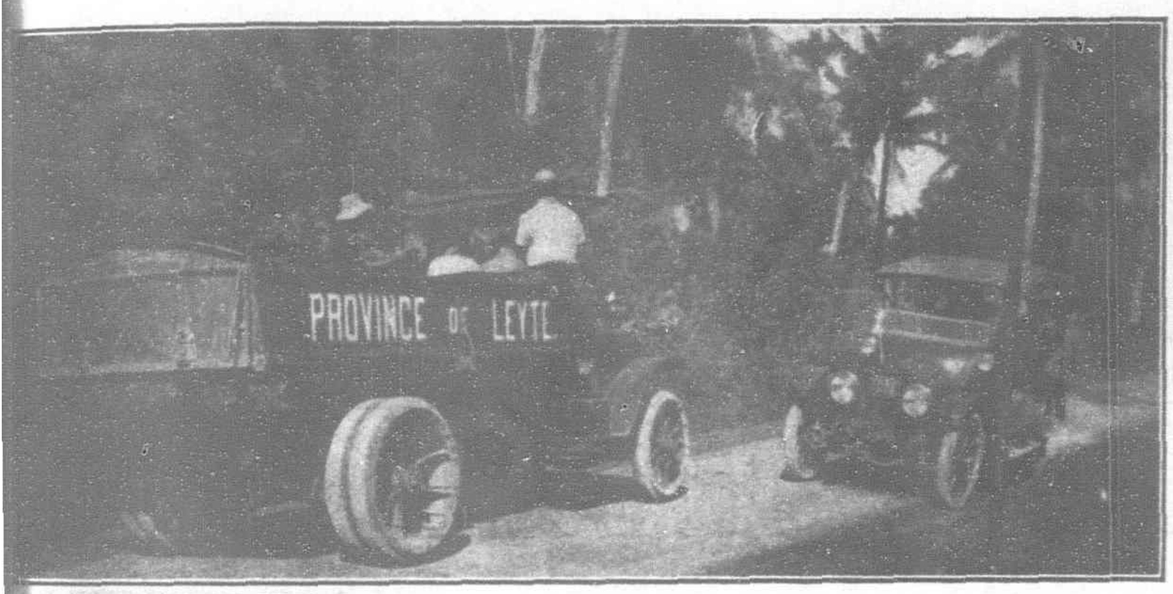
Courtesy Bureau of Public Works.

Twenty cavanes of rice loaded on cart over kilometer 1, Malolos-Hagoney Road, Bulacan Province. What good roads mean to the farmer who has few draft animals.



Courtesy Bureau of Public Works.

Bull cart loaded with 5 bags of rice in difficulty at a carabao wallow in Naic-Indang Road, Cavite Province.

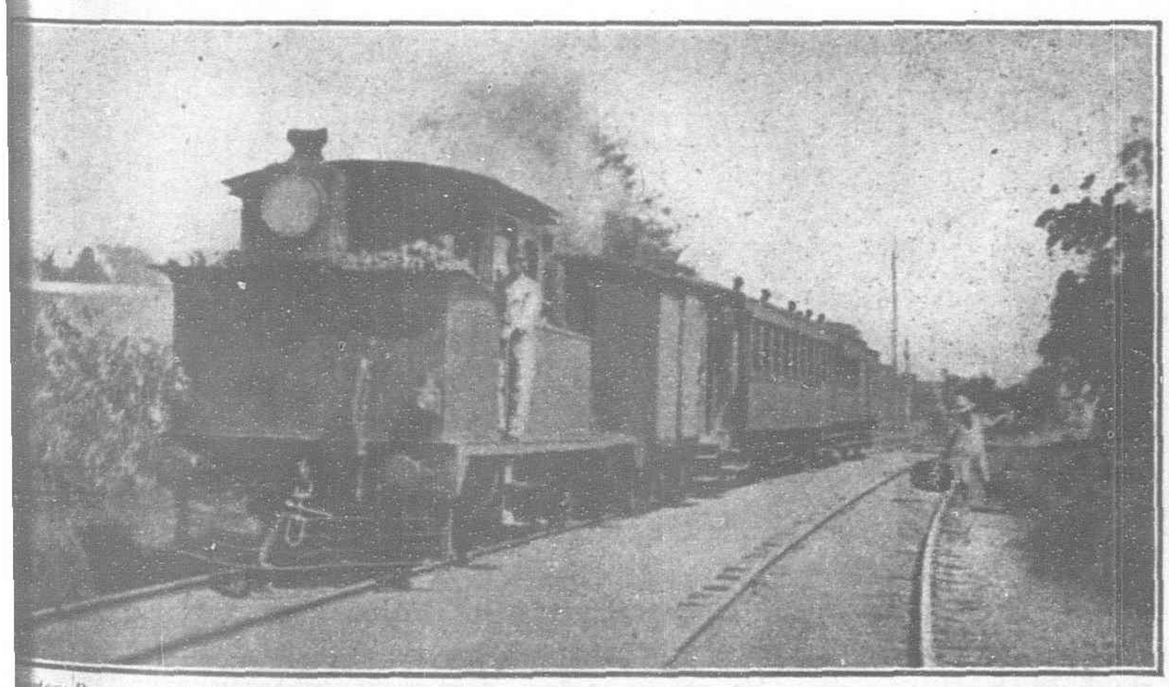


Courtesy Bureau of Public Works.

A freight auto truck. These trucks provide very cheap transportation where there is plenty of traffic over good roads.

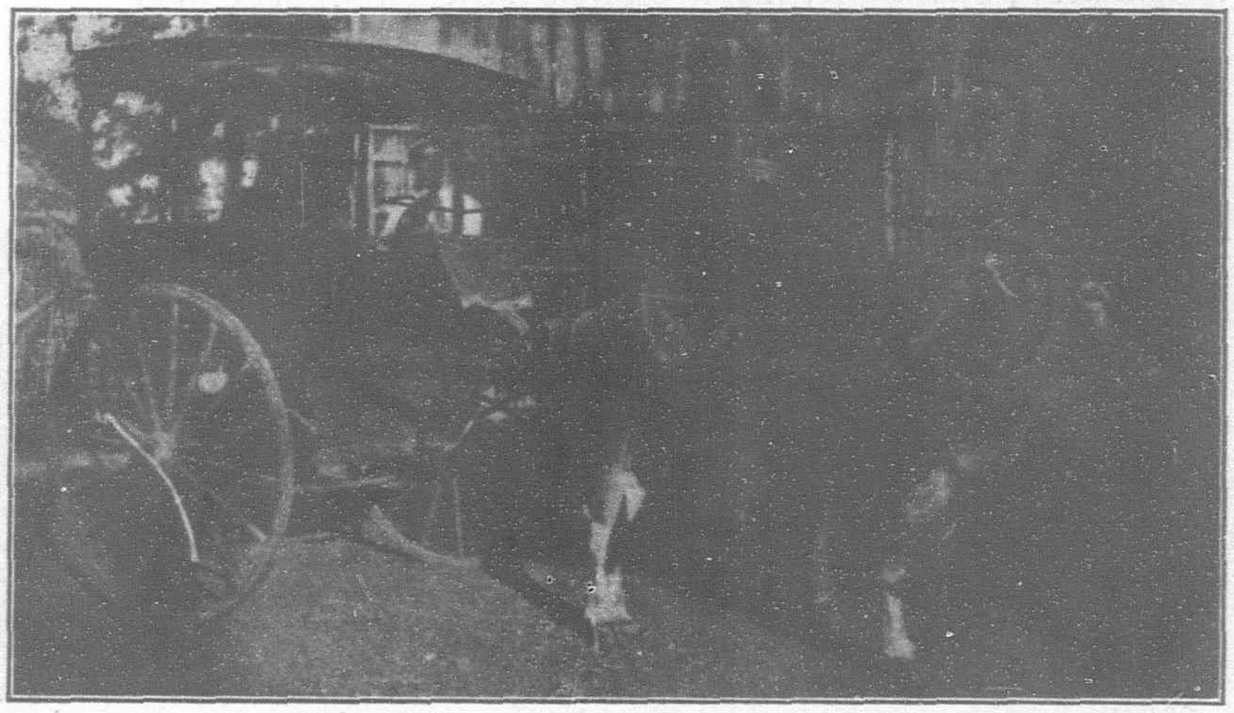
Courtesy Bureau of Education.

Horse and closed Quilis.



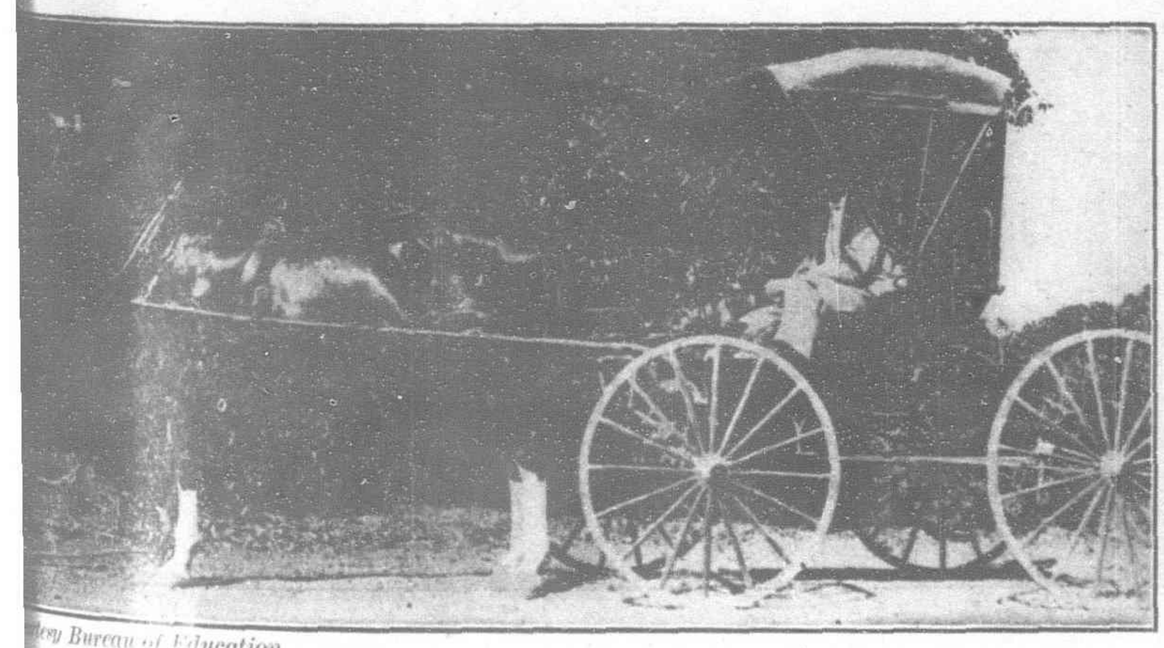
Courtesy Bureau of Public Works.

Train on Antipolo line.



Courtesy Bureau of Education.

Indian Bull drawing Quilis.



Courtesy Bureau of Education.

American Buggies seldom seen.

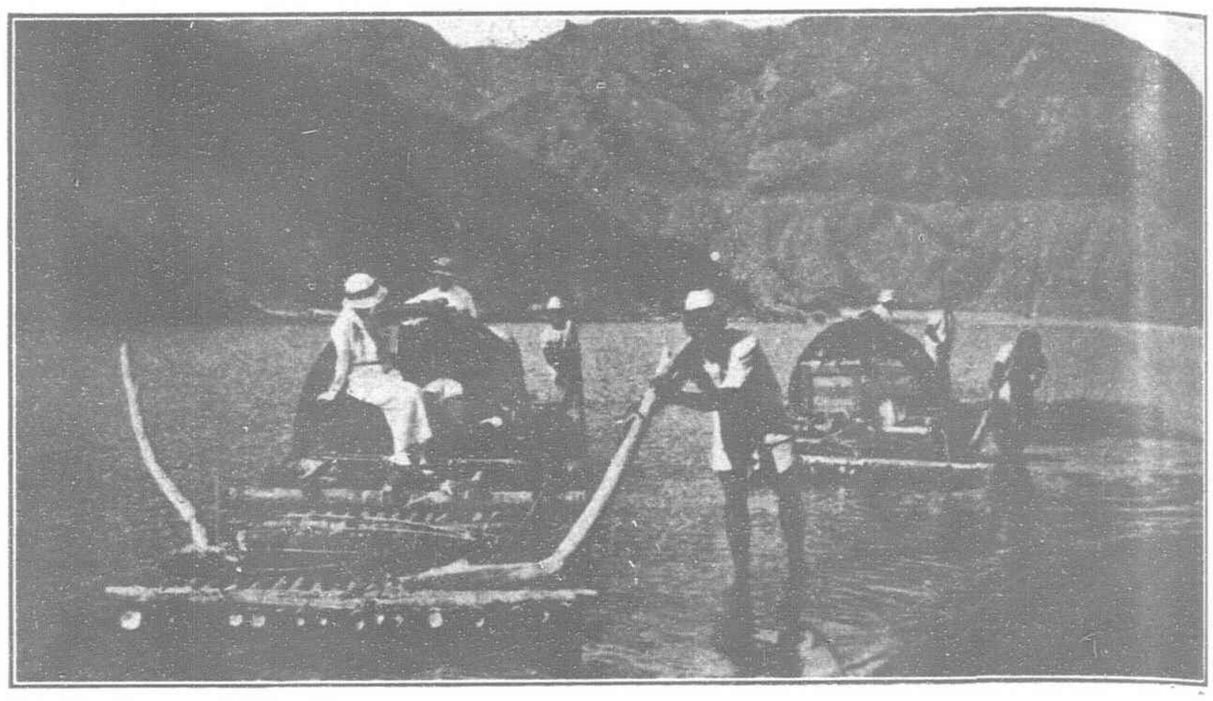
Courtesy Bureau of Public Works.

Showing the effect of lack of care in maintaining a well-constructed road.

transportation so exceedingly inefficient. Each community can do a little to relieve the present scarcity of draft animals by improving the roads and trails so that the animals already available can haul twice as much. A few schools have made a splendid showing in road improvement. A few municipalities, like San Pablo and Calamba in Laguna Province, have materially improved their roads and streets. If these few schools and municipalities are taken as models by the less progressive schools and municipalities, the organization of an efficient, economical transportation system that embraces every community in the Philippine Islands will soon be achieved. When that time arrives, every farmer in the Philippines will have the satisfaction of knowing that with reasonable bargaining ability he can get the best possible price for his produce.

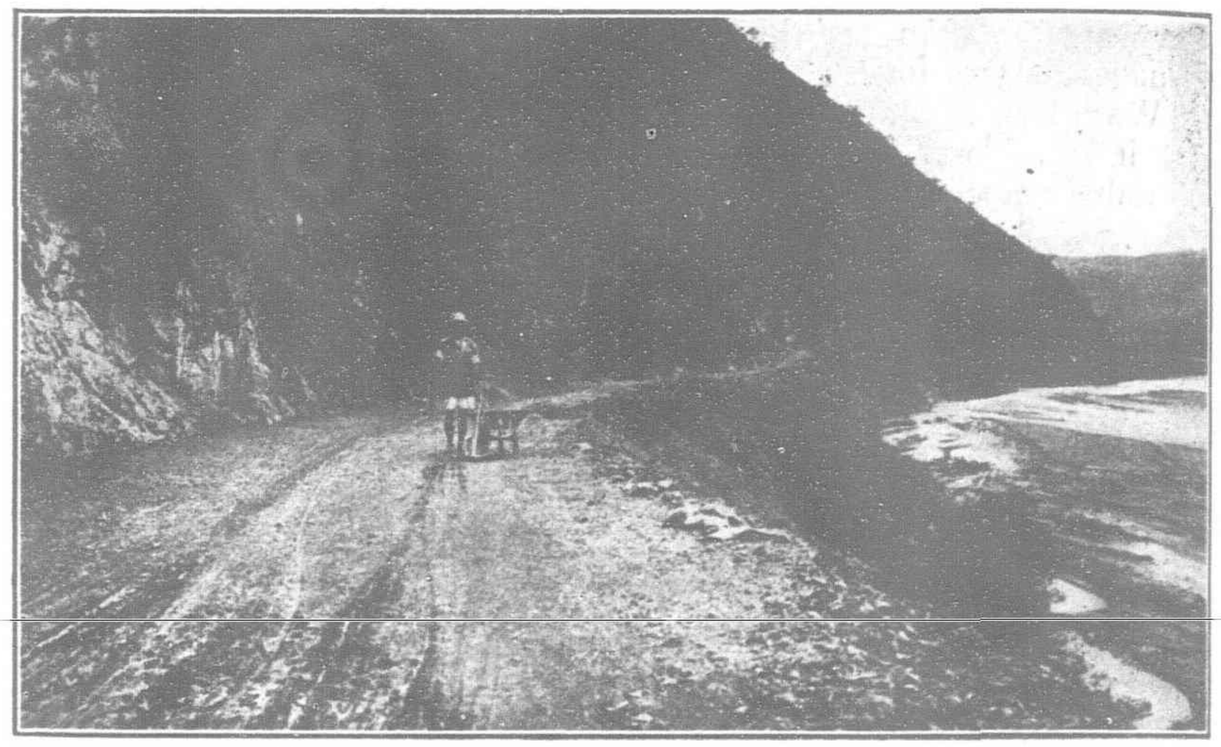
The problem of transportation in the Philippines is a problem of organization and extension. The main arteries are provided by nature or are being constructed by the Insular and provincial governments. The capillaries of the system must be developed by the municipality, the barrio, and the individual. Where the road parallels the seashore, it gives transportation facilities the year round, while the sea is raging half the time under the goading of typhoon and monsoon. The automobile and the auto truck are increasing almost 50 per cent a year. Their mission is to do the heavy hauling on the main arteries in order that all the carabaos and bullocks may be available for the development of the capillary system that feeds the arteries. Long-distance carrying by cargadors will decrease year by year, but the work of the cargador wiil not decrease. He is the one who starts the products on their long journey, and his work will increase as the sum total of Philippine products increases.

The great need of Philippine transportation is organization—not organization by one individual or one company in the control of all, but a natural organization that works itself out by the common-sense adaptation of the means available to the needs of each community by itself, and to the needs of the Archipelago as a whole. There is no best method of transportation. There is only a best method for a given road and a given load. The transportation system will have been organized when each method finds its place of maximum efficiency in the system.



Courtesy Bureau of Education.

One kind of cargador transportation in Ilocos Sur.



Courtesy Bureau of Public Works.

The caminero at his post, fighting back the waves on one side, the landslides on the other, and the ruts in the middle.

LEATHER GOODS IN SIAM

The leather manufactures imported into Siam are classified by the customs, under the heads of boots and shoes; saddlery; and leather manufactures, other sorts. The total value of these imports for the fiscal year ended March 31, 1913 was G. $184.599, a decrease of $455,148, as compared with the previous year. This large decrease appears to have been due to overstocking in the preceding year, and general trade depression in 1913.

The value of boot and shoe imports for the fiscal year 1913 was $62,990, as compared with $101,112 for the preceding year, a decrease of $38,122. This decrease may also be accounted for by the increasing demand for the home-made shoes of the Chinese bootmakers, who have steadily improved the style and quality of their output; moreover, these articles are cheaper than the imported goods, and can always be obtained in sizes to fit or be made to order. The home industry in footwear is entirely confined to the above-mentional Chinese handmade shoes, as there are no shoe manufactories in Siam using machinery.

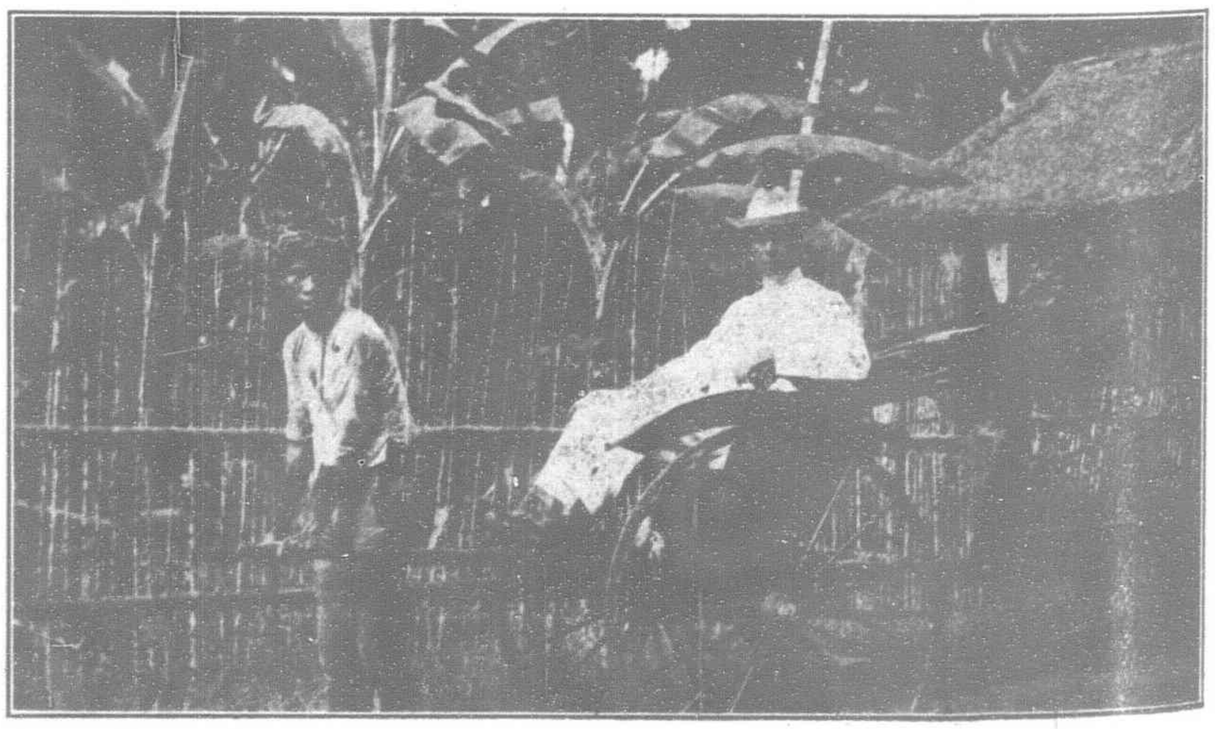
Shoe imports from the United States showed a decline from $1,403 in 1912 to $1,117 in 1913. The superiority in style and durability of the American shoes, as compared with those of European local make, however, is admitted, the only drawback being the higher price. As in former years, the heaviest shipments of footwear continue to come from the United Kingdom and Germany.

The saddlery imports have shown very little progress during the last five years, the total value for 1913 amounting to $19,451, against $15,889 for 1909. As in former years, most of these imports were supplied by the United Kingdom. Leather goods other than footwear and saddlery also showed a decline from $237,761 in 1912 to $102,158 for 1913.

The customs do not furnish any information as to the nature of the leather imports. However, as there are only one or two small tanneries in Siam, supplying sole leather only, the leather imports must consist chiefly of materials used by the Chinese bootmakers, such as sole leather, and uppers of calf, tan, glazed kid, etc.

Courtesy Bureau of Education.

The billy goat helps complete the transportation system.



Courtesy Bureau of Education.

Jinrickishas are found only in Zamboanga.

JAPAN'S DEMANDS ON CHINA

A Discussion from the Point of View of China and Treaty Powers of the Situation Created by Japan's Efforts to Secure a Predominant Position in China

The Press of Japan, followed, or headed, by Count Okuma, the Premier, has with practical unanimity explained that certain demands were made upon China in January last solely in order amicably to settle a number of outstanding questions. At first there was no hint that China was to be punished for any act of omission or commission. Those, however, who recollected the angry outbreak in the Japanese Press a little earlier, when China made the perfectly natural and legitimate suggestion that the War Zone in Shantung, which had outlived the little usefulness it ever possessed, should be abolished, could not help the inevitable association of ideas. The method adopted in presenting the demands, the threat that any disclosure of their terms would entail serious consequences and the drastic character of the terms themselves gave rise to the belief that their presentation was intended to convey to the Chinese Government an intimation that it had offended Japan and that reparation was to be exacted.

To many people who were entirely unprejudiced it seemed that Japan was determined to fasten a quarrel upon China. In normal times it would be difficult for Japan to achieve her ambition of obtaining a position of paramounty in China in view of the undertakings she had entered into with other countries to maintain China's territorial integrity and the principle of the Open Door. But the European War gave Japan a golden opportunity. She was enabled to gain a firm footing in Shantung on the pretext that she was fulfilling her obligations to Great Britain. The belligerent Powers whom she was ostensibly "assisting" were naturally debarred from criticising the methods she adopted to render her assistance effective. The plea of "military necessity" was advanced to excuse what bore the aspect of flagrant breaches of China's neutrality. Assurances were, moreover, voluntarily given by Count Okuma, the Japanese Premier, to America, the one country that had the leisure to watch closely the happenings in the Far East and the force available to interpose if interposition became necessary, that Japan was animated by the highest and noblest motives. No other country was to suffer any kind of loss as a result of her military activities; there was no selfish idea of seizing an unexpected opportunity to advance Japan's interests. That was what the world was told, and so impressive was the assertion that Japan was actuated by good faith that in many quarters her *bona fides* were not doubted. Japan was, therefore, enabled to gain a firm grasp of Shantung with the tacit approval of the world.

An apparent change in Japan's policy became noticeable as soon as she had established herself firmly in Shantung. The word apparent is used because there is now every reason to believe that from the first Japan's sole motive in taking part in the hostilities was to extend her political influence in China. While making her way to a position whence she thought she could enforce her demands without danger of interference, Japan exhibited a touching solicitude for the preservation of China's independence and of the rights of all other nations in China. Safely seated, however, she acted in a manner justifying the charge that she scornfully ignored the other Powers, including her Ally, Great Britain, and presented to China a set of demands the acceptance of which meant national extinction and civil strife, while refusal, it was openly hinted, would involve war with Japan. That this is not an over-statement of the character of the demands is realized when they are considered in detail, a task to which we will later address ourselves.

In the February number of the FAR EASTERN REVIEW we were enabled to publish a summary of the text of the demands. The publication of the summary was timely as the Japanese Government refused to disclose the demands and had threatened China that dire consequences would ensue if they were made known. In passing it may be remarked this was extremely short-sighted policy. The certain effect of secrecy is to excite suspicion. That which is right and honourable need not fear the light. When it became known that the Government of Japan was pressing demands upon China which it would not allow to be divulged, it was very generally assumed that they must be of a character that would not bear inspection. The Japanese Government soon discovered that it had committed a bad blunder.

Notwithstanding all the efforts to keep the terms of the demands secret their general tenor was telegraphed to Great Britain and America by newspaper correspondents in Peking. To counteract the effect of this inconvenient disclosure of its designs the Japanese Government took the extremely risky step of denying that it had presented twenty-one demands to China. The Japanese Embassies abroad, while at first denying knowledge of the demands, ultimately issued statements that all reports from Peking were gross exaggerations inspired by Germany and that as a matter of fact only eleven demands of an innocuous character had been presented. What purported to be a complete list of the demands was supplied to the Governments of Great Britain, America, France and Russia. From this edition of the demands those to which the Treaty Powers could take most exception were carefully excluded. Many people have found it hard to believe that Japan should be so foolish as to endeavour in the first instance to prevent the demands from being divulged, and in the second to seek, after they had become known, to delude the other nations interested as to their extent and character. It must be admitted that it is difficult to understand why statesmen with such a reputation for astuteness as the Japanese should adopt measures so futile and so puerile, but there is no escaping from the facts. Japan deliberately took a course which reflects upon her trustworthiness and which has convinced many that her most solemn assurances must be received with the greatest reserve.

The first group of demands, four in number, relate to Shantung. It is as well to recall that prior to the European War Japan had no rights of any sort, other than those possessed in common with other Treaty Powers, in Shantung. She attacked Kiaochou, so the world was informed, in order to fulfil her treaty engagements with Great Britain and to preserve the peace of the Far East. There was not a whisper that Japan sought any advantages for herself; in fact the suggestion was indignantly repudiated in advance by Count Okuma, the Japanese Premier. This distinguished and venerable statesman went out of his way to assure the world that Japan was, as usual, animated solely by splendid unselfishness. Obviously after that it would have been unfair to suspect Japan of a deliberate design cheaply to acquire the fruits of a decade and a half of empire building by Germany. Japan told the world in effect that all she wished to gain was a genial glow of self-satisfaction induced by a consciousness of well-doing.

Leaving Japan for the moment suffused in a blush of self-conscious virtue and contemplating her own political rectitude with awed admiration, it is well to recall how the plant of German culture came to be implanted in the sterile soil of Shantung. Russia, it is known, had cast curious eyes upon the harbour of Kiaochou. In fact soundings had been taken, but an adverse report was apparently given to the Tsar's Government. However that may be Russia took no steps and when, as a consequence of the murder of two missionaries, German men-of-war steamed into the harbour and hoisted the German flag, there was none to bid them stay their hand. The nerveless Manchu

Government took no action, and in due course the Kiaochou Convention established Germany as a legal lessee of the Kiaochou Territory and gave her certain rights of railway construction and mining development. Germany also secured certain prior rights for the industrial development of Shantung. That is to say if China desired to obtain foreign capital for use for any purpose whatever German capitalists were first to be approached.

It is evident that Germany gave certain assurances to America after occupying Kiaochou.* But the publication of the extraordinary self-denying engagement by which Great Britain practically pledged herself to an acknowledgment of Shantung as a special sphere of influence, gave rise to apprehension in America. This document is worth republishing in view of the fact that it is the germ from which sprang the Open Door Declaration. The engagement was as follows:—

DECLARATION BY GREAT BRITAIN RESPECTING WEIHAIWEI

APRIL 19, 1898

England formally declares to Germany that in establishing herself at Weihaiwei, she has no intention of injuring or contesting the rights and interests of Germany in the Province of Shantung, or of creating difficulties for her in that province. It is especially understood that England will not construct any railroad communication from Weihaiwei and the district leased therewith into the interior of the Province of Shantung.

This Declaration might well give the Government of the United States of America cause to think. Although the principle of the Open Door had not yet become an article of political faith, the principle of the Closed Door, or Spheres of Influence, had not met with open support, least of all from Great Britain. Germany was the latest arrival on the Far Eastern field and had no established interests, yet Great Britain was apparently generous enough to acknowledge Germany's possession of a special Sphere of Influence. Exactly why Great Britain made this self-denying ordinance is not clear, but it may be supposed that the exigencies of European politics, to which China may fairly attribute many of her troubles, were responsible. Certain it is that the late Mr. John Hay, then American Secretary of State, immediately perceived the danger that was threatened to the principle of Equal Opportunity, to which more than any other nation America, as the one country that had not sought in China any exclusive advantages, territorial or commercial, was pledged. He, consequently, lost no time in asking the Powers to subscribe to the Open Door Declaration,† an instrument that has contributed, up to the present time, to preserve China from the fate that certain land and trade hungry nations had prepared for her. The prompt action taken by Mr. Hay undoubtedly arrested a tendency towards the partition of China.

This brief sketch of the circumstances in which Germany became possessed of the lease of the Kiaochou Territory and certain "rights" has to be kept in mind when attention is given to the Japanese claims in Shantung. Japan now adopts the view that she has succeeded to all the rights that Germany possessed in the province. There is no need to point out that this is an open repudiation of her original announcement that she was actuated by no ulterior motive in attacking Kiaochou and only wished honourably to fulfil her obligations to her ally. Japan would seem to have a penchant for ignoring a promise the keeping of which would prove embarrassing. The questions of right and wrong involved may, however, be disregarded and the situation created by Japan's demands considered.

The Shantung Demands

The first Group of the demands deals with Shantung and is as follows:

The Governments of Japan and China being desirous of maintaining the peace of Eastern Asia and of further strengthening the friendly relations existing between the two neighbouring nations, agree to the following Articles:—

1.—The Chinese Government agrees that when the Japanese Government hereafter approaches the German Government for the transfer of all rights and privileges of whatsoever nature enjoyed by Germany in the Province of Shantung, whether secured by Treaty or in any other manner, China shall give her full assent thereto.

2.—The Chinese Government agrees that within the Province of Shantung and along its sea border no territory or island or land of any name or nature shall be ceded or leased to any third Power.

3.—The Chinese Government consents to Japan building a railway from Chefoo or Lungkow to join the Kiaochow-Tsinanfu Railway.

4.—The Chinese Government agrees that for the sake of trade and for the residence of foreigners certain important places shall be speedily opened in the Province of Shantung as Treaty Ports, such necessary places to be jointly decided upon by the two Governments by separate agreement.

According to Japan she has succeeded to the rights of Germany, and in this she is asking China to concur. It will at once be seen that this means the perpetuation of a very dangerous precedent. If a successful belligerent were always to succeed to the rights of an adversary in China a vista of endless complications would be opened up. For example Japan has demanded exclusive mining rights in the Yangtsze Basin. If Japan were defeated in war by some other nation these rights would be transferred. Obviously the effect would be to render China's sovereignty an utter farce. If rights and privileges in China are to be made spoils of war there is no logical reason why the German section of the Hukuang lines should not be claimed by any or all of the Allies, if they be successful in Europe. Or, conversely, if the Dual Alliance defeated their adversaries in Europe they might claim Kowloon, Weihaiwei, and Kwangchauwan. China could never be certain in granting any privilege or concession to a Power whose intentions were known to be friendly, that it would not pass as a prize of war into the hands of a Power by no means well-disposed towards China. The reduction of the fortified base at Kiaochou was an inevitable result of the decision of Japan to take part in the war, and there could be little exception to the retention of the leased territory until the conclusion of the war, when its ultimate fate would be determined by the Council of Peace. In all probability in such an event the Powers would decide that as a recompense for her expenditure of blood and treasure Japan was entitled to occupy the territory for the unexpired period of the lease. The military character of Kiaochou made it liable to forcible seizure. The demand for the transfer of commercial and political rights in other parts of Shantung is on quite a different footing. It is worthy of passing remark that Japan evidently intends to conduct her peace negotiations with Germany independently.

The first article of the demands can only be taken as an announcement that Japan does not consider herself bound by the terms of the Anglo-Japanese Alliance to conclude peace in common with Great Britain.

Japan has not contented herself with claiming the rights of Germany in Shantung—which she evidently considers as spoils of war—but has demanded further and important concessions. The Chinese Government has been asked to agree not to cede or lease to any third Power territory within the Province of Shantung or islands along the coast, and also to agree to Japan building a railway from Chefoo or Lungkow to join the Kiaochou-Tsinanfu Railway. This is asking for concessions that were never granted to Germany and may be contrasted with Count Okuma's emphatic declaration on August 24 that Japan had no "ulterior motive" in attacking Kiaochou. The world certainly could not assume from that declaration that Japan entered the war with the object of transforming Shantung into a Japanese Sphere of Influence. That, however, is clearly what is aimed at, in fact what has been accomplished by military force directed, not against Germany, but used as a menace to China. The refusal of the Japanese Government to allow China control of the Customs at Tsingtau after the expulsion of the Germans was tantamount to declaring that Japan arrogated to herself entire freedom of action. The demand that more "ports" should be opened in Shantung is unobjectionable in itself, but it is not justified by any other circumstances than Japan's military success over Germany.

The Shantung demands show that Japan considers first that, although Great Britain took part in the reduction of Tsingtau, Japan alone succeeds to Germany's rights in the province; second,

*See letters which passed between the American and German Governments in 1899, published in the FAR EASTERN REVIEW of February, 1915.

†The letters which comprise the Open Door Declaration, were published in the February, 1915, issue of the FAR EASTERN REVIEW.

that victory over Germany has given Japan the right to press China for additional privileges and has in fact gained the position vis-a-vis China of a conquering nation that may impose what punitive terms it thinks fit. It should always be remembered in endeavouring to arrive at an impartial judgment on the question at issue, that China was absolutely guiltless of any offence towards Japan or any other country prior or subsequent to the outbreak of war. She has been throughout strictly neutral. The demands made upon her by Japan in reference to Shantung are such as might fairly have been made if China had been an ally of Germany. As she never occupied such a position and never extended any aid or comfort to Germany, the people of China feel that it is grossly unfair that they should be treated as a conquered nation, the more particularly as Japan had given solemn assurances that her only motive in attacking Kiaochou was the preservation of the peace in the Far East in accordance with her obligations to Great Britain.

South Manchuria and Eastern Inner Mongolia.

The claim has been advanced by apologists for Japan that the demands presented on January 18, apart from those relating to Shantung, have no connexion with the European War. This is, perhaps, true in a restricted sense, but it may safely be assumed that many of them would not have been presented if Japan had not concluded that the fact that most of the nations interested in China were engaged in a life or death struggle, gave her an opportunity to coerce China without the fear of outside interference. A study of the demands places this beyond doubt. The preamble of the second group of demands (those dealing with South Manchuria and Eastern Inner Mongolia) declares that

"The Chinese Government has always acknowledged the specially favorable position enjoyed by Japan in South Manchuria and Eastern Inner Mongolia," and therefore demands :—

1.—**That the term of lease of Port Arthur and Dalny and the term of lease of the South Manchuria and Antung-Mukden Railways be extended to the period of 99 years.**

2.—**That Japanese subjects in South Manchuria and Eastern Inner Mongolia in erecting buildings for the purpose of trade and manufacture or for farming shall have the right to lease or own land so required.**

3.—**That Japanese subjects shall be free to reside and travel in South Manchuria and Eastern Inner Mongolia and to engage in business and in manufacture of any kind whatsoever.**

4.—**That Japanese subjects be granted the right of opening all mines in South Manchuria and Eastern Inner Mongolia, such mining places to be jointly decided upon by the two Governments.**

5.—**That in respect of the two following subjects mentioned herein below the Japanese Government's consent shall be first obtained before action shall be taken :—**

(a.)—**Whenever permission is granted to the subject of a third Power to build a railway or make a loan with a third Power for the purpose of building a railway in South Manchuria and Eastern Inner Mongolia.**

(b.)—**Whenever a loan is to be made with a third Power pledging the local taxes of South Manchuria and Eastern Inner Mongolia as security.**

6.—**That if the Chinese Government in South Manchuria or Eastern Inner Mongolia employs advisers or instructors for political, financial, or military purposes the Japanese shall first be consulted.**

7.—**That the control and administration of the Kirin-Changchun Railway shall be handed over to the Japanese Government to take effect on the signing of this agreement, the term to last for 99 years.**

The Chinese Government strenuously denies the assertion contained in the preamble of this group of demands. The furthest it is prepared to go is to agree that Japan has succeeded to the rights and privileges of Russia in South Manchuria as defined in the Treaty of Portsmouth, and the Convention between Russia and Japan. It cannot seriously be affirmed that what Japan demanded did not constitute a wide extension of what was taken over from Russia. Russia certainly did not possess the right to own land and exploit mines throughout South Manchuria. She had no prior rights of supplying funds for railway construction purposes, nor did she compel China to agree to appoint Russian advisers for political, military, financial and police affairs. Whatever degree of favourableness Russia's position in South Manchuria gave her she most assuredly did not avowedly cherish the grandiose ambitions that Japan harbours. In regard to Eastern Inner Mongolia Japan in the ordinary acceptation of the term, possesses no special rights whatsoever. China has always regarded the retention of her full sovereign rights over Inner Mongolia as of the highest strategic importance. The capital is dangerously accessible from the North, and it has always been one of the chief concerns of Chinese statesmen to prevent China's position in any part of Mongolia from being weakened. In the diplomatic history of China much space would have to be given to the efforts made to resist Russian encroachments upon Mongolia; efforts that were attended by a large measure of success prior to the Revolution, which gave Russia an opportunity of which she promptly availed herself. We think that we are justified in saying that there is no undertaking, that has been published to the world, that gives Japan that right to claim a specially favourable position in Eastern Inner Mongolia. Further we find it difficult to believe that there exists any secret engagement on the part of China that would justify Japan in claiming this position. Clearly then China cannot be blamed if she resists this demand to the utmost extent of her power. In spite of any explanations and qualifications made by Japan the preamble to this group of demands clearly indicates that she wishes to reduce China's sovereignty over the vast region concerned to the vanishing point.

Despite China's efforts to keep the question of Eastern Inner Mongolia out of the discussion the Japanese Minister was determined that it should be dealt with, and at the twenty-second Conference endeavoured to persuade the Chinese to give it consideration on terms similar to those insisted upon in regard to South Manchuria. The Chinese Minister for Foreign Affairs showed a disposition to enter into some bargain with Japan for the withdrawal of group five of the demands. We sincerely trust however that China will not be persuaded to abandon her historic policy in regard to Mongolia for any inducement that may be offered.

In a previous article it was pointed out that the demand that the term of the leases of Port Arthur and Dalny, of the South Manchuria Railway and of the Antung-Mukden Railway should be extended to a period of 99 years was not open to much objection. The method by which Japan secured the lease of the Antung-Mukden Railway in the first instance might be considered open to question, but it is certain that Japan has, by enormous expenditure and intelligently directed effort, done wonders in the Leased Territory. The railways also are most efficiently administered. Those who are most opposed to Japan's political methods cannot honestly withhold praise for the steady and systematic manner in which she has developed the properties that came into her possession as a result of the war with Russia. There is nothing unreasonable in the request that she should be permitted to enjoy the benefit of the possession of what are practically her own creations for a period of time that would enable her to reap the fruits of her energy and expenditure. It may be as well at this stage to make it clear that in whatever we have written we have never sought unfairly to criticize Japan for claiming anything to which she might be entitled by the trend of events. What we have endeavoured to show is that Japan is running a great risk of losing, not only the friendship of China—which is of incalculable value to Japan owing to her geographical situation—but the esteem of the Powers, in persisting in pressing certain demands that vitiate China's sovereignty and deteriorate if not destroy the rights of other nations. With Japan's legitimate aspirations we are in full sympathy, but when she aspires to the position of protector of China with full enjoyment of all the privileges attaching to that position, we feel it our duty to warn Japan that she is venturing on very dangerous ground. All nations are more or less dependent the one upon the other. Japan, a debtor nation, cannot afford to estrange the goodwill of China, naturally her best customer, and of the other nations whose financial assistance is essential to Japan's development. But these are not the most important considerations that should operate to stay Japan's hand. Her national character for good-faith, her honour, is jeopardized. If it were possible, by

military coercion, to compel China to accept all the demands as they were originally presented Japan would gain but a Pyrrhic victory. Not only would she have to burden her people with crushing imposts for military preparation against the inevitable day of reckoning, but there would be no single nation in the world to which she could turn for friendship or assistance. Certain of the demands plainly prejudice the interests of her own Ally, and signs are not wanting that a very severe strain is being put upon the patience of Great Britain. It is due to Japan that she should be frankly warned of the danger of the course she is pursuing, and the warning should be accepted as a proof of good-will rather than an indication of enmity.

Japan has asked for her subjects in South Manchuria and Eastern Inner Mongolia rights that would import into these regions a large alien population clothed with the privileges of extra-territoriality. Very properly, China has declined to discuss this proposition as far as Eastern Inner Mongolia is concerned. But in regard to South Manchuria there is the insuperable objection that were China to give way she would lose her jurisdiction over practically the whole of Manchuria (as it might confidently be expected that Russia would demand in North Manchuria anything secured by Japan in the southern part of the Three Provinces.) China has been asked to agree that Japanese subjects should have the right to reside and travel and to engage in any kind of business and manufacture in South Manchuria, and the right to lease or own land for the erection of buildings for the purpose of trade and manufacturing or for farming and stock raising. It is obvious that if these were agreed to, Japanese state-aided enterprises could be dotted all over South Manchuria, and China would have no jurisdiction over the occupiers of the land. To all intents and purposes the areas occupied by the Japanese would be alienated from China, as with the growth of the Japanese communities it is certain that there would come a demand for the control of policing and other municipal functions. The Chinese authorities and police would be powerless to function, as extra-territoriality would debar them. Right of entry to land and premises could not be insisted upon by the Chinese police and other authorities and consequently the Chinese Government would lose jurisdiction over an area only limited by the extent to which the Japanese could appeal to the cupidity of the Chinese landowners. Moreover it would appear that by virtue of the Most Favoured Nation Clause other nationalities would acquire whatever rights the Japanese secured. Clearly this would tend further to restrict China's jurisdiction and to increase the chance of complications. Several proposals were made by China to endeavour to prevent the loss of jurisdiction. She at first proposed that all civil and criminal cases should be adjudicated by Chinese Courts in the presence of the Japanese Consul. This was an endeavour to apply the arrangement arrived at by China and Japan in regard to the Korean subjects residing in Chientao. Article IV of the Chientao Convention was as follows:—

> The Korean subjects residing on agricultural lands within the mixed residence district to the north of River Tumen shall submit to the laws of China, and shall be amenable to the jurisdiction of the Chinese local officials. Such Korean subjects shall be accorded by the Chinese authorities equal treatment with Chinese subjects, and similarly in the matter of taxation and all other administrative measures, they shall be placed on equal footing with Chinese subjects. All cases, whether civil or criminal, relating to such Korean subjects shall be heard and decided by the Chinese authorities in accordance with the laws of China, and in a just and equitable manner. A Japanese Consular Officer or an official duly authorized by him shall be allowed freely to attend the Court and the hearing of important cases concerning the lives of persons. Previous notice is to be given to the Japanese Consular Officers. Whenever the Japanese Consular Officers find that a decision has been given in disregard of law, they shall have right to apply the Chinese authorities for a new trial to be conducted by officials specially selected, in order to assure the justice of the decision.

It is to be remembered that this Convention was signed in 1908, or prior to the annexation of Korea by Japan, and it is quite possible that Japan would feel less diffidence about surrendering the extra-territorial rights of Korean subjects than those of Japanese subjects. In any event China's proposal, which in the first instance did not include the provision that if the Japanese Consular Officials found that a decision had been given in disregard of law they could apply for a new trial, was not accepted. China offered to include this provision when her first suggestion was rejected. When the Japanese refused to agree to this China offered to give up criminal jurisdiction. As the Japanese were still obdurate she announced her willingness to renounce both criminal and civil jurisdiction except in land disputes. Although China has gone more than nine tenths of the way to meet Japan's demands and has only reserved to herself a tattered shred of sovereignty, Japan has not yet agreed to the proposal.

Turning to the mining demands the question arises how far their acceptance might be deemed an infringement of the principle of Equal Opportunity. As originally worded Japanese subjects were to be given the right of opening "all" mines in South Manchuria, necessarily to the exclusion of the subjects or citizens of other countries. To the layman this would seem to be closing that Door which, in so many treaties, Japan had bound herself to assist to keep open. If Japanese were to have the exclusive right of mining in South Manchuria it appears clear that others would not have an "equal opportunity" in that region. However, eventually the Japanese agreed to a proposal that nine mining areas should be selected for exploitation by Japanese subjects. By this limitation the objection that the principle of equal opportunity was being disregarded may be removed, though the term "areas" is vague and might be interpreted in a very comprehensive manner.

The claim that preference should be given to Japan if China desired to raise a loan on the security of the local taxes of South Manchuria or to raise a loan for the purpose of building a railway in South Manchuria, which was granted by the Chinese negotiations, was evidently designed to render Japan safe from interference in this region by any other Power. The principle of equal opportunity has certainly been disregarded as it is now impossible for any nation to assist China in the development of South Manchuria without first securing Japan's permission. Evidently when Japan took over Kiaochou she also took over Germany's policy, as, it will be remembered, Germany secured a similar preference in Shantung.

That Japan should seek to secure control of the Kirin-Changchun Railway is not to be wondered at, as possession of the line is of great strategic importance. The railway is to be eventually extended to Hunchun in Northern Korea, and when this extension is completed it is obvious that Japan will have it within her power to throw troops into Central Manchuria much more speedily than by way of Dalny or Fusan. It has to be noted that Japan has secured the right to build a line from Changchun to Taonanfu, and to Jehol, which will also be of great military importance in certain eventualities. As is pointed out in the report of the conferences at the end of this article China has consented to a fundamental revision of the Kirin-Changchun Railway Loan Agreement and has agreed that if in future China should grant special privileges to any other railways similar privileges should be granted to this line. This is another instance in which Japan has adopted a policy initiated by Germany.

The Hanyehping Company

The original demands in regard to the Hanyehping Company read:—

> **The Governments of Japan and China, seeing that Japanese financiers and the Hanyehping Company have close relations with each other at present, and also desiring that the common interests of the two nations shall be advanced, agree to the following Articles:—**
>
> **a.—The two contracting Powers mutually agree that when the opportune moment arrives the Hanyehping Company shall be made a joint concern of the two nations and they further agree that without the previous consent of Japan, China shall not by her own act dispose of the rights and property of whatsoever nature of the Hanyehping Company, nor cause the said Company to dispose freely of the same.**
>
> **b.—The Chinese Government agrees that all mines in the neighbourhood of those owned by the Hanyehping Company shall not be permitted, without the consent of the said Company, to be worked by other persons outside of the said Company, and further agrees that if it is desired to carry out any undertaking which it is apprehended may directly or indirectly affect the interests of the said Company the consent of the said Company shall first be obtained.**

The career of the Hanyehping Company, which comprises the Hanyang iron works, the Pinghsiang coal mines, and the

Tayeh iron mines, has been somewhat chequered. It has had recurring financial troubles and, influenced by Sheng Kung-pao, who has always been amicably disposed towards the Japanese, it has largely employed Japanese money to assist it over its difficulties. In the first instance a sum of Tls. 5,000,000 was borrowed from a German firm, but this was repaid later on by the Chinese Government. Japan appears to have first come upon the scene in 1902, when a contract was entered into between the Company and the Japanese Imperial Steel Foundry whereby the latter was to be supplied with iron ore from Tayeh for fifteen years. The Company was at this time suffering from insufficiency of funds,and two years after making the contract with the Steel Foundry a sum of Tls. 3,000,000 was borrowed from the Yokohama Specie Bank. Other debts to Japanese concerns were contracted, and by 1912 the total amount outstanding was in the neighbourhood of Tls. 9,000,000. The financial condition of the Company showed no sign of improvement and in 1913 the sum of $15,000,000 Mexican currency was borrowed from the Japanese, who secured the right to appoint advisers and other officials. This is a brief history of the Company, showing how the Japanese have gradually won their way to a position in which they have some voice in the management. It is said that the Japanese have largely to thank Sheng Kung-pao for the hold they have gained over the concern. The shareholders, or a large section of them, have long been desirous of releasing the Company from its financial shackles, or at all events those riveted by Japan, and it was hoped that a sum sufficient to pay off the indebtedness to the Japanese could be borrowed from America or Great Britain. Influence was brought to bear, however, and this project was defeated. There was also some talk of nationalising the Company, but this also fell through.

The preamble of the Hanyehping demands recites that the proposed arrangement is for the "common interests" of China and Japan. It is difficult to conceive what arguments could be advanced to show that China's interests would be served by admitting Japan as a partner in an enterprise of such paramount importance. If it were necessary for China to secure the assistance of another nation in the development of her steel industry it would be clearly advantageous for her to select a nation that had the benefit of long experience and expert knowledge. Without casting any reflection upon the Japanese it cannot be said that they possess the qualifications that would justify China in admitting them to partnership. Moreover, it is evident that the partnership would consist of the Japanese Government on the one hand and a Chinese Company on the other. The control of an industry upon which the greatness of so many countries is based, would assuredly pass into the hands of the Japanese and this is a possibility that no patriotic Chinese could contemplate without alarm. The interests of Japan, which, as is generally known, is badly in need of iron ore owing to the poverty of her own resources in this respect, would undoubtedly be served if she were admitted to partnership—the interests of China would equally as assuredly suffer.

When attention is directed to the second article of the demand it is seem that not only does Japan want to gain control of the Hanyehping Company, but she wishes to prevent any other country from working mines in the provinces in which the Hanyehping properties are situated. The Tayeh mine is in Hupeh and the Pinghsiang coal mine is in Hunan. The expression that is used, "mines in the neighbourhood of those owned by the Hanyehping Company" is comprehensive enough to enable Japan to veto any mining operations in either province. It may be recalled that when the question arose as to the meaning of the term "parallel to the South Manchuria Railway" Japan insisted upon putting her own interpretation upon it, and it may safely be assumed that she would act similarly if any question arose in regard to mines in Hupeh and Hunan. It has to be borne in mind that these provinces, Hunan in particular, are immensely rich in mineral deposits and, with acceptable mining regulations, would present a splendid field for the investment of foreign capital. Japan now proposes to prevent the investment of foreign capital in this part of China. The demand is the more extraordinary in view of Japan's relationship with Great Britain. The alliance between the countries was contracted in order that their interests in the Far East should be protected. Great Britain has admittedly special interests in the Yangtse Valley, yet Japan proposes to render it impossible for British capital to be invested in a most important industry in this region. How can Japan reconcile this demand with her engagements with Great Britain and her often reiterated adherence to the principle of equal opportunity? It must be confessed that all the evidence points to a desire on the part of Japan to secure for herself the sole right to develop the mines of China. She has already secured a monopoly in South Manchuria and Shantung; she is demanding a monopoly in Hunan and Hupeh and Fukien. Even were this not directly opposed to the pledge that Japan has given to maintain the principle of the open door, such a monopoly would be most disastrous for China. Japan has no surplus capital of her own for investment in mining enterprises, and as she would scarcely be able to borrow money from other countries to work mines in China for her own benefit, the result of the monopoly would be that China's mining resources would remain undeveloped. It seems hardly credible that Japan should seriously have presented demands that conflict so directly with the interests of the other Treaty Powers, but the fact that they have been presented remains. China has hitherto declined to take the Hanyehping demands into serious consideration, and it is to be hoped for her own sake as well as that of the Treaty Powers that she will be able to resist the endeavour being made to induce her to become a party to what can only be called an act of political bad faith.

Group Four of the Demands

The Japanese Government and the Chinese Government with the object of effectively protecting the territorial integrity of China agree to the following special Article:

The Chinese Government agrees that no island, port or harbour along the coast shall be ceded or leased to any third Power.

The territorial integrity of China is guaranteed by numerous agreements, to which Japan is a subscriber, notably the Anglo-Japanese Alliance. Its preservation is as much the concern of the Treaty Powers as of Japan, yet she seeks to take the sole responsibility upon herself. The preamble says, in effect, that China's territorial integrity is not effectively protected by the Anglo-Japanese Alliance and other treaties and conventions. It is difficult to find any explanation of Japan's desire to arrogate to herself the duty of safe-guarding China's interests in this respect, other than believing that she wishes to obtain a kind of suzerainty over the Republic. Were the principle of this demand once admitted China would occupy a position similar to that attained by Korea during the Russo-Japanese War, which it will be remembered was far advanced on the road towards annexation. It is not unfair to Japan to recall that she made treaties with Korea for the express purpose of preserving Korea's territorial integrity and independence. The assumption of suzerainty in that case was a step towards annexation. The Chinese may be pardoned if they regard Japan's solicitude for her territorial integrity with decided suspicion. They took the right step in informing Japan that China was willing to make a general declaration that she would not alienate any part of her territory to any nation. That declaration should be amply sufficient if Japan were really anxious to preserve China's territorial integrity and had no ulterior motive in making the demand.

Group Five

We now come to the final group of demands, those which with the second article of the Hanyehping (Group 3) demands were not communicated to the Governments of the other nations interested. These demands were as follow.—

1—The Chinese Central Government shall employ influential Japanese as advisers in political, financial, and military affairs.

2—In the interior of China Japanese shall have the right to ownership of land for the building of Japanese hospitals, churches and schools.

3.—Since the Japanese Government and the Chinese Government have had many cases of dispute between the Japanese and Chinese police to settle—cases which cause no inconsiderable misunderstanding—it is for this reason necessary that the police departments of important places (in China) shall be jointly administered (by Japanese and Chinese) or that the (Chinese) police department of these places shall employ numerous Japanese for the purpose of organizing and improving the Chinese Police Service.

4.—China shall purchase from Japan a fixed ratio of the quantity of munitions of war (say 50% or more), or Japan shall establish in China a jointly worked arsenal, Japanese technical experts to be employed and Japanese material to be purchased.

5.—China agrees to grant to Japan the right of constructing a railway connecting Wuchang with Kiukiang and Nanchang. Also a line between Hanchang and Hangchow, and a line between Nanchang and Chaochow.

6.—China agrees that in the province of Fukien Japan shall have the right to work mines and build railways and to construct harbour works (including dockyard) and in case of employing foreign capital Japan shall be first consulted.

7.—China agrees that Japanese subjects shall have the right to propagate religious doctrines in China.

Though there seems to be little likelihood that China will consent to any of these demands, unless acquiescence be forced from her at the point of the bayonet, they will repay consideration in that they show the scope of Japan's ambitions. While Japan deemed it advisable, after opposition from China and comments by foreign publicists, to withdraw articles 1 and 3 it is still interesting to refer to them. At the present time China employs some Japanese advisers, but the apparent meaning of the first demand set out above was that in political, financial and military affairs Japanese advice only should be taken. If this had been agreed to it would have constituted an acknowledgment that Japan's interests were paramount in China, in fact it would have been practically an admission—which in making them Japan apparently desired—that Japan exercised the rights of a suzerain over the Republic. Japan in presenting the demands apparently thought that the advice of Japanese subjects would be more disinterested than that of European and American advisers, but this opinion is hardly likely to be shared by China and the other nations interested. Theoretically a country that requires advice from foreigners selects them solely for their qualifications, irrespective of their nationality. Actually, however, political considerations have to be taken into account, and the endeavour is made so to distribute the appointments that, while well qualified men are employed, due regard is given to international susceptibilities. Siam is a case in point. In that country American, British, French and German advisers are employed in order to prevent the idea that any one country has an undue voice in the control of the country's affairs. The conditions are similar in China. Many of the advisers of the Central Government are men who, apart from their nationality, have attained pre-eminence in their own particular sphere of activity, but the principle has never been lost sight of that international jealousies are to be avoided. Were China to consent to grant Japan a virtual monopoly in this field she would certainly be called to account by the other nations who consider that they have just as much interest in China's future and welfare as Japan.

If Japanese were allowed to own land for the building of Japanese hospitals, churches and schools in the interior of China, the virus of extra-territoriality would speedily be spread broadcast. No doubt such institutions would do beneficent work, but their directors and staff would be beyond Chinese jurisdiction. The local taxes and imposts need not be paid and in the event of disputes arising with the Chinese residents in the localities where these institutions were situated, they would have to be settled by Japanese Consular representatives. A vista of endless friction and complication would be opened up were this demand to be granted. Bearing in mind that political aspirations are sometimes hidden beneath a cloak of altruism the Chinese regard this proposal with deep distrust. This may also be said of the demand that Japanese subjects should have the right to propagate religious doctrines in China. The Chinese suspect that a political motive lurks behind this anxiety for China's spiritual welfare. Priests are not necessarily politicians, but it has often been found to be the case that political propaganda is undertaken by those of the priestly vocation. China does not want to take any chances. To have a large body of men over whose movements she had no control whatever scattered all over the Republic with wide powers of acquisition of land, would seem to the Chinese to be inviting trouble. The necessity of Japanese propagating Buddhism in China does not seem acute. The Buddhist faith was communicated to Japan through China and evidence is lacking that it has been so improved upon by its Japanese adopters that it is necessary that China should be presented with the new and revised edition.

As Japan has withdrawn the demands in regard to joint control of the Chinese police at certain unspecified "important places" that particular item need not be considered in detail. It is, however, of interest to note that there seems absolutely no just ground for this demand being presented at all. The wording of the demand is vague in the extreme, but it is to be assumed that it ralates to South Manchuria, as that is the only region where Japanese and Chinese police are in close contact—although it might be a closer approximation to accuracy, in view of recent events, to add Shantung. Apparently the main desire of the Japanese Government was to secure an admission from the Chinese that Japan occupies a specially favorable position in China, with the object of putting that admission to its logical use when opportunity offered.

The next demand, relating to munitions, is one of the most important presented to China for acceptance. It is plainly and nakedly a negation of the "Open Door." No amount of ingenious sophistry could divest this proposal of its exclusive character. China is asked to agree to purchase one half, or more, of her requirements in munitions from Japan. Failing that she is to agree to the establishment of a jointly worked arsenal in which Japanese material would be used and Japanese experts employed. This is supposed to be designed to secure uniformity in China's armament, but as the Chinese Minister for Foreign Affairs very pertinently pointed out, China would prefer to select whatever model she might deem to be best. While the Japanese model might be really excellent there were other nations which had had some experience in the manufacture of armaments, and conversations in regard to the establishment of an arsenal had taken place some time ago. This particular demand is looked upon with especial distrust by the Chinese. Not only do they foresee that its acceptance would subject them to recrimination from other Powers, but they fear that there is a deep and sinister design behind the proposal. Were Japanese practice in arms and ammunition to be adopted in China the way would be made easy for a Japanese invasion of the country. Obviously an invading army would find its task simplified if it was sure of securing replenishment of its munitions without bringing them from oversea. The adoption of Japanese practice would certainly be accompanied by the employment of Japanese technical experts in all of China's arsenals. The danger that would arise were hostilities to break out between China and Japan need not be dwelt upon. That uniformity in China's arms and munitions is highly desirable cannot be disputed, but China should certainly preserve a free hand and most emphatically should not bind herself to purchase the bulk of her requirements from any particular country.

Japan undoubtedly has some interests in Fukien, as she many years ago secured a promise from China that no portion of the coastline should be alienated. That was deemed necessary in view of the proximity of the province to the Japanese possession Taiwan, or Formosa, ceded to Japan after the war of 1895. But Japan's special interests begin and end with securing the safety of Taiwan. There is no shadow of justification for the claim that Fukien is a Sphere of Influence. Other countries have rights there, for example France has certain mining concessions. Japan is endeavouring to compel China to close the door in Fukien upon all foreigners other than Japanese. Were China unwise enough to agree to this it may be assumed that when the time was deemed to be ripe Japan would present claims similar to those put forward in regard to South Manchuria. Long leases of the railways would be sought; rights of residence and land-ownership throughout the province would be demanded. By demanding that she should be first consulted if China wishes to employ foreign capital in Fukien, Japan is seeking to put the province on the same footing as South Manchuria. This is a demand that should be unequivocally rejected by China on the ground that no legitimate reason exists for its presentation.

What Japan can hope to accomplish by pressing the Chinese to grant the fifth article of the fifth group—that for railways from Nanchang to various points—it is difficult to see. Here is a case in which the rights of another Power are deliberately coveted, Count Okuma's dementi notwithstanding. In October,

1914, the Chinese Government offered, in writing, to British capital the construction of a railway from Nanchang to Chaochowfu, and for many months past the representative of Messrs. Pearson and Sons, the great British contractors, have been negotiating with the Ministry of Communications to conclude a contract for the work. So far no agreement has been come to, but the line has been definitely pledged to the British and it is understood that if Messrs. Pearson and Son fail to arrive at an understanding which will enable them to proceed with construction upon terms and conditions with which they are familiar, then some other financiers will take up negotiations. Messrs. Pearson and Son are seeking an agreement permitting them to build the railway upon a percentage contract basis. The Japanese Minister professes that the Japanese approached the Chinese Government as long ago as 1907 for this line, and repeated the request later, but he acknowledged that Japan had received no encouragement from the Chinese, a fact which he attributes to disregard of Japan's wishes and an extension of favourable treatment to Great Britain. It has long been known that Japan has had in view the construction of a railway to connect the Fukien seaboard with Nanchang and Kiukiang on the Yangtse River. Already the line between Kiukiang and Nanchang is being financed mainly with Japanese money and it was only natural that Japan should labour to utilise this railway as a stepping stone to permanent and wider influence over a region of great importance south of the Yangtsze. Always she has been associated with a desire for a railway from Foochow to Nanchang, and it is only very recently that she has dropped the Foochow terminal, the reason being, no doubt, that a reconnaissance by engineers has demonstrated that a railway across the mountain range on the Fukien-Kiangsi borderland is impossible. Although Chaochowfu is in Kwangtung it is just across the frontier of Fukien and a connexion between the railway now in operation between the seaport of Swatow and Chaochowfu and the railway connecting Changchow with the seaport of Amoy would, with an extension further north with Foochow, give Japan a supreme hold upon the coastal railway system. Not only would she dominate in Fukien but she would also have an important port in Kwangtung, for it is obvious that the sea terminal of a railway from Nanchang to Chaochowfu must be the port of Swatow. Of this, however, Japan says nothing in her demands, though it is certain that Japan hopes by some means or other to obtain the opportunity to develop Swatow and bring it under her aegis. This would secure for her a footing in Kwangtung, the importance of which is not to be ignored. It is a matter of great surprise to the Chinese, however, that Japan persists in endeavoring to persuade them to disregard the British claims to the railway, and likewise it is a matter of amazement to British subjects that Japan will publicly profess regard for the interests of other nations and in private conferences do everything possible to over-ride them.

More significant, however, is the demand of Japan for the railway from Nanchang to Hangchow. This railway is definitely committed to the British in an agreement signed on March 31, 1914, as the following articles from the agreement will show:—

ARTICLE 2

The loan is designed to provide capital, first:

For the resumption by the Chinese Government of the Anhui Provincial Railway Company's work and property in the neighbourhood of Wuhu; secondly,

For the construction of a Government line of railway from Nanking to Nanchang through Ningkwofu and Hweichowfu, and with connexion to Wuhu and Kuangtechou: and from Nanchang to Pinghsiang, to connect with the existing Government railway from Pinghsiang to Chuchow; thirdly,

For the incorporation of the said Chuchow-Pinghsiang Railway as an integral part of the railway to be constructed under the present loan agreement from Nanking to Pinghsiang. The actual route to be followed between these two points shall be decided by the final survey.

ARTICLE 19

A branch line from a point on the main line at or near Hweichowfu, passing through Yu Chien, to Hangchow, and a connecting line from the Nanchang-Pinghsiang section to a point on the Hupei section of the Hukuang Railway, if found by the Chinese Government to be profitable or necessary later on, shall be built by the Chinese Government with funds at their disposal from Chinese sources, and if foreign capital is required preference will be given to the Corporation. The length of such lines shall be determined by the Chinese Government.

Even if foresight had not been exhibited by the signatories of the agreement in including Article 19 the British would have had every reason to object to Japan constructing a railway from Nanchang to Hangchow on the grounds of its parallel nature, adopting, of course, the precedent created by the Japanese when they successfully opposed the construction of the Chinchow-Aigun railway for the reason that it paralleled the South Manchuria Railway. As it is, the lines Japan now demands are committed to British interests, and it is not surprising that the Chinese Minister for Foreign Affairs has so far stoutly declined to discuss them. The repetition of the argument that China should grant the demands and leave it to Japan to come to some compromise with Great Britain is calculated to inspire the strongest language in denunciation. It is a type of diplomacy that is foreign to responsible Western peoples. It is audacious, to use the mildest term, and is certain to compel all serious persons to revise their estimate of the country that protests so constantly its sense of honour and its high motives. We cannot believe otherwise than that the Japanese Government is not cognizant of the character of the arguments adduced by its representative in Peking. That is the most charitable view that can be taken of the situation in this regard. No surprise need be felt by Japan, however, when members of the British House of Commons ask anxious questions on the subject, and when the suspicions of other nationals are aroused as to her intentions.

As for the railway to connect Wuchang with Nanchang, either via Kiukiang or direct, nothing can be said except that Japan here also endeavors to trench upon what have been regarded for many years by Great Britain as her preserver. It was Great Britain that opened the Yangtsze Valley to trade — in fact, broadly speaking, it was Great Britain that opened China to trade—and always that country has claimed distinct privileges of railway development in the Yangtsze Valley. Much British capital has already been invested there in railways, and more is committed for the purpose, and why Japan should go out of her way to force an entry to the region and still expect to receive international sanction to dominance in other provinces is beyond understanding.

A Retrospect and Some Questions

The actions of individuals and of nations are inspired mainly by one of two motives. They do certain things either because they believe that by so doing their material interests will be served, or because they believe that, in accordance with the laws of rectitude, they should be done. The one motive is material, the other moral: It is but seldom that individuals or nations deliberately do anything that they believe to be wrong or improper, unless their moral instincts be perverted. What is the motive animating Japan in pressing these demands upon China? Is she seeking the welfare of her neighbour, or is she simply intent upon gaining vast material advantages for herself? The foregoing analysis of the demands answers the question. Careful consideration of their terms shows that in no one solitary instance are the interests of China served. If the demands were granted in their entirety China would estrange the friendship of all nations other than Japan and would brand herself as lacking in political good faith. Japan is endeavouring to force China to affirm that she has no respect for her treaty engagements. No plea of *force majeure* would avail to save China from the demands for compensation and reparation that would inevitably follow in due time. The fact that acceptance of the demands would entail to China the loss of the good-will of the world shows that Japan was actuated by no sentiment of regard for China. Further their acceptance would render China politically dependent upon Japan, a condition of things that would certainly not be in the interests of the Chinese people. China has hitherto succeeded in preserving her sovereign rights. They have, it is true, been impaired and advantage has been taken of her weakness to compel her to submit to much that has hurt her national pride. But she has remained to a large extent mistress of her own house and this result has been accomplished mainly by sedulously preventing any one Power from gaining a position of paramountcy in the country.

It is sometimes argued that China's historic policy of playing off one Power against another has been detrimental to her interests. From our point of view this policy, which was forced upon her by her weakness, has in reality been the one factor that has preserved China from partition. China has been safeguarded by the mutual fears of the great Powers that the gaining of a preponderating position in China by any one of them would be detrimental to the general interest. Quite possibly concern for China's welfare was a secondary consideration, but the policy of the Powers has reacted favorably on China's interests. Now Japan is openly seeking to destroy this equipoise, and to bring about the very situation that China and the world generally have recognized would be fraught with grave danger.

Japan is seeking to bring back into Far Eastern politics the Spheres of Influence policy. She is claiming South Manchuria, Eastern Inner Mongolia, Shantung and Fukien as exclusive Japanese spheres. The word "exclusive" is not employed in the demands, but it is obvious that if they were granted the effect would be to restrict the development of these regions to Japanese enterprise. The European War will not last for ever and the time would surely come, if Japan succeeded in gaining these spheres, when other Powers would demand compensating advantages, with the result that Chinese sovereignty would disappear. Such a result would be attended with the greatest menace to peace. If Spheres of Influence were recognized in China those who had to content themselves with less valuable spheres would cast covetous eyes upon the richer regions secured by their neighbours. The whole country would be in danger of becoming a battle-ground upon which quarrels in which China had no interest whatsoever would be determined. No national policy for China would be possible. Each nation would claim the right to veto any proposed railway that might detract from the value of its sphere, however beneficial it might be to the nation. In other directions the power of the Central Government would be shackled by the mutual jealousies of the Powers occupying the respective spheres. Partition would undoubtedly follow.

What is Japan offering China as a *quid pro quo* for the acceptance of her demands? Let us recapitulate what advantages Japan has sought to gain. She has asked for the admission that South Manchuria, Shantung, Fukien, and Eastern Inner Mongolia are Japanese Spheres of Influence. She has asked for confirmation in the possession of her leased territory and railways in South Manchuria for 99 years, and for the control of the Chinese Government Railway between Kirin and Changchun. She has asked for the extension of extra-territoriality over vast regions of China. She has asked for the virtual control of the steel industry in China and a monopoly of mining, not only in the "spheres," but in Hunan and Hupeh. She has asked that China should admit in effect that the Republic is under Japanese protection. She has asked that China should give her a monopoly in the supply of munitions. She has asked that Japanese advisers should supervise political, financial and military affairs in China. There are other demands, but this recital is sufficient. What is China to obtain in return? The Chinese have asked the question and the Japanese have been equal to the occasion. Japanese who are able to speak authoritatively of the designs of their Government have assured the Chinese that the demands are in no way intended to injure China. What is sought is the establishment of a strong community of interests between Japan and China that would result in the eventual elimination of the foreigner in the Far East. The attention of China was directed to the fact that Chinese and Japanese as Asiatics were excluded from America, Canada, Australia and South Africa. With the combined resources of Japan and China it would be possible to retaliate by expelling the foreigner from the Far East. The programme included wresting from foreign hands the Philippines, Australia, Indo-China and India and the smaller foreign possessions in this part of the world. Asked what period of time they considered would be required to achieve these grandiose results the Japanese replied that in seven years they would be in a position, with the aid of China, to carry out the programme in its entirety.

This is the bait that is dangled before the Chinese to reconcile them to the loss of their independence, their national honour and vast material resources. That this explanation of Japan's action has actually been given by Japanese holding responsible positions at the Chinese capital is beyond doubt. Fears that Japan would head an "Asia for the Asiatics" movement were entertained when Japan defeated Russia, but those best informed scouted the idea as ludicrous. It was felt that Japan was sufficiently enlightened to know that co-operation between East and West would make for their mutual advantage, while antagonism would be as disastrous to the one as the other. It is difficult to believe, even now, that Japan seriously thinks that her interests would be served by creating a huge Asiatic Empire from which the foreigner and all his works would be rigidly excluded. Yet a study of the Japanese Press shows that ideas of this kind have been long fermenting, and it is possible that the War Party in Japan cherishes such dreams.

The sober-minded section of the Japanese people should pause and consider the danger surrounding the path in which their rulers are forcing them to tread. Japan is inviting the animosity of the world. The Chinese people are being inspired with a deadly hatred of everything Japanese. Her own ally is amazed at finding that Japan has repudiated her promises and pledges and is openly seeking to impair British interests in China. America is becoming estranged. Can all this make for the ultimate advantage of Japan? Wonderful as her rise has been she cannot afford to earn the ill-will of the whole world. No nation, however rich and powerful, can be a law to itself. Already Japan has wrought herself immense harm, but it is not too late to retrieve in some part her national reputation. Will she have the wisdom and foresight to step back while the Door of Opportunity remains unclosed behind her?

The Conferences.

When the last issue of the FAR EASTERN REVIEW went to press we had brought our record of the conferences held between the Japanese Minister at Peking (Mr. Eki Hioki) and the Chinese Minister of Foreign Affairs (Mr. Lu Cheng-hsiang) up to March 20.

Thirteenth Conference.

The next conference was held on March 23, and, upon opening, the Japanese Minister reintroduced the demand with regard to the Kirin-Changchun railway. It is Article 7 of the second group of the demands and is to the effect that "the control and administration of the Kirin-Changchun Railway shall be handed over to the Japanese Government to take effect on the signing of this agreement, the term to last for 99 years." As was explained in last issue the capital for this railway as originally provided was half Chinese and half Japanese, and this the Chinese agreed to convert wholly into Japanese capital on terms similar to those obtaining with regard to other railways in China. The Japanese objected to this proposal at the outset but ultimately consented to it, and at this conference it was mutually agreed that the line should be leased to Japan for a term of 99 years, as has been done in the case of the South Manchuria Railway, the Antung-Mukden Railway, and the lease of Port Arthur and Dalny, the loan contract to be revised fundamentally in principle. It was also agreed that whenever China should in future grant any special privileges to other railways such privileges should be extended to the Kirin-Changchun railway. This is an application of "the most favored nation" clause to a railway—the precedent for which was set in the contract made by China with the Germans in connexion with the projected railways in Shantung—which is eventually destined to give China considerable difficulty, inasmuch as it is likely to be inserted in all future railway agreements, and perhaps pressed for in regard to existing contracts. That the Chinese have now consented to adopt it with Japan is but another evidence of their readiness to be conciliatory and conclude the negotiations in an amicable spirit. Further discussion ensued upon the question of the right of Japanese to reside and purchase land in South Manchuria; and the mining demands were also touched upon. The Japanese proposed that in Eastern Inner Mongolia and South Manchuria a total of thirteen areas should be allotted to Japanese for mining purposes, but again the Chinese declined to consider Eastern

Inner Mongolia, though they expressed a readiness to accede the nine areas mentioned in South Manchuria. After some discussion on Japan's demand for preference when a loan is propoced, with the local taxes of South Manchuria as security, the Foreign Minister stated that his Government was prepared to grant that; and likewise he stated the Government was agreeable to grant Japanese the preference if it was decided to appoint advisers for political, financial, or military purposes in South Manchuria.

Fourteenth Conference.

On March 25 the discussion on the mining areas was continued but the Chinese would agree to nothing but the granting of the nine areas in South Manchuria, and this item was initialled. The Chinese Foreign Minister took occasion at this conference formally to ask the Japanese Minister the reason for the despatch of troops to China. The Japanese Minister replied that the troops were reliefs for the various Japanese garrisons, but intimated that the time-expired troops would remain until the conclusion of the negotiations. Further brief reference was made to the question of residence in South Manchuria, and then Group 3 of the demands, relating to the Hanyehping Company, was brought up. The Chinese expressed a willingness to agree to the principle of co-operation with the Japanese, but the Japanese Minister was not content with that. Like Oliver Twist he wanted more, and declared the Chinese proposal to be too far from the original demand to be taken as a basis for negotiation. He said, too, that he had certain apprehensions. One was that the Company might be confiscated by the local authorities as had been attempted in 1914; another was that the Central Government might convert the Company into a State-owned concern, and a third was that the Company might borrow money from America with which to pay off the present debts to Japanese. The Chinese Foreign Minister explained that so long as they agreed to the principle of co-operation the Government, pending the performance of the principle, would do none of the things which Mr. Hioki feared. Mr. Hioki endeavored to have the Chinese put this in writing, but the request was refused. Group 4 of the demands, dealing with the non-alienation of any island, port, or harbour on the coast of China to any third power, was introduced. The Chinese Foreign Minister contended that this matter was not a subject for negotiation with Japan but one for action by China on her own volition, and seeing that the Chinese Minister was determined in this attitude Mr. Hioki asked if Japan could be consulted as to the manner in which China would word the declaration to the Powers. The reply was in the negative, and a similar response met the question of Mr. Hioki that Japan should be shown the declaration before it was promulgated The Foreign Minister was not prepared, either, to say whether a copy of the declaration would be specially forwarded to the Japanese Government. What the Japanese Minister was aiming at was that Japan should be regarded by China as being specially concerned in this subject and be a party to it; and the Chinese were equally determined that Japan should not be. No satisfaction being obtainable on the point, Mr. Hioki abandoned it for the nonce and delved into Group 5 of the demands—the group about which the Japanese Government made no mention in their communication to the Powers—bringing forward the demand in regard to the preaching of religious doctrines. Mr. Hioki explained the reasons why rights in this respect which had been enjoyed by Western Powers should be accorded Japan. The Chinese Foreign Minister stated that with China the matter was a question of politics rather than one of religion, as the great majority of the people already believed in Buddhism, and there were thousands of Buddhist temples scattered throughout the country. Another point that had to be considered, urged the Foreign Minister, was that some of the Chinese monks were at present dissatisfied with the Government for controlling the Buddhist property—which was State property—and if China were forced by Japan to grant Japanese, who would enjoy ex-territorial privileges, the right of propagation of Buddhism in China, the Chinese monks might utilise the Japanese for purposes of protection in defying the Government. It was very difficult, the Foreign Minister also pointed out, to distinguish between Chinese and Japanese monks. The Western missionary, on the other hand, had a different standard and mode of life, and always lived separately from the Chinese. The Japanese monks would live with the Chinese, and moreover would bring with them wherever they went extra-territorial rights. Mr. Hioki acknowledged the correctness of this claim, and added that the demand was made not so much with a desire on the part of Japanese to propagate Buddhism but rather because of a sense of injury done them in China's denial to them of privileges to preach that had been accorded Western missionaries for centuries. Even if China should grant the right, added Mr. Hioki, it was not likely that a large number of Japanese would avail themselves of it. One reason why he had to press this demand, he said, was because the monks of Japan expected the right, and Count Okuma had promised before the election to secure it for them.

Fifteenth Conference.

On March 27 Mr. Hioki adduced arguments to persuade the Foreign Minister to agree to the Hanyehping demands, but failed. The Manchurian question was also further discussed but without results.

On March 29 the Chinese Government despatched a note to the Japanese Legation requesting that the time-expired Japanese troops be withdrawn from China in order to enable the minds of the Chinese people to be calmed. Rumours of an exciting nature were at this time circulating broadcast, and there was every indication of difficulties arising. Fortunately the President was able to avert trouble by calling upon the various Governors to take steps to prevent public exhibitions of feeling, and the crisis was safely passed.

Sixteenth Conference.

At the conference on March 30 the Japanese Minister again endeavored to persuade the Foreign Minister to agree to all the twenty-one demands, and in particular to those relating to Manchuria and the Hanyehping Company. He announced that these latter had been sufficiently discussed, and intimated that Japan had no more to say with regard to them. The Japanese Minister had made no attempt to differentiate between the two articles referring to the Hanyehping Company in Group 3 of the demands, and always alluded to the matter as if it were presented in one demand. This attitude the Chinese refused to accept and at no time gave countenance to the second Article, that providing for no competition with the Hanyehping enterprises. Mr. Hioki asked acceptance of Article 2 of Group 5, which demands for Japanese the right of ownership of land for the building of Japanese churches, hospitals and schools in China, but the Foreign Minister refused to discuss it.

Seventeenth Conference.

On April 1 the demand for the right of residence and ownership of land in South Manchuria—the crux of which was the question of jurisdiction—again came up. This time the Chinese gave their fourth revised proposal, in reply to Japan's demands for comparative freedom of action without being amenable to Chinese jurisdiction. China at previous conferences had put forward three counter-proposals. The first was that all civil and criminal cases should be adjudicated by Chinese Courts in the presence of a Japanese Consul or a representative of the Consul. The second was a readiness on the part of China to revise the counter-proposal on the basis of the arrangement made in the Chientao Convention for Korean settlers in the Chientao district, which would give Japanese the right to call for a new trial and new judges if it could be shown that unfair decisions had been come to. They agreed that criminal cases relating to Japanese should be dealt with by Japanese Consuls, but in regard to civil cases it was proposed that Japanese should be tried by a Japanese Consul in addition to the Chinese local authorities. The third was one in which the Chinese were ready to give up criminal jurisdiction. As for civil cases they expressed a willingness that those between Chinese and Japanese, and those involving land disputes or China's interests, should be tried by a Chinese Court. In the fourth counter-proposal China agreed to renounce criminal jurisdiction and civil jurisdiction, except in cases which involved land disputes, which should be tried in Chinese Courts. The last concession was made at this conference, China making it solely with the idea of having the whole matter settled. A memorandum was also presented by the Chinese Foreign Minister giving a history of the various steps of retreat which

the Chinese Government had made on this question of jurisdiction. Mr. Hioki was requested to report to his Government at once and agree to the last proposal. Mr. Hioki then introduced the subject of Buddhism, and the demand for the right to build schools and hospitals, asking if the Chinese Government had any objection to them in principle. The Foreign Minister explained that if the Japanese should desire to build a school in any particular vicinity it should be dealt with locally. Mr. Hioki asked for a memorandum in writing embodying this, but that the Foreign Minister could not see his way to give. In bringing up Article IV of Group 5, dealing with ammunition and arsenals, Mr. Hioki explained that Japan had made her arms and ammunition uniform and urged that China should do the same on the model of Japan. China had, he pointed out, heretofore purchased arms and ammunition from Western countries with consequent confusion. The Foreign Minister admitted the necessity of uniformity, but declared that China wished to adopt what she might consider the best in any country and do so without being hampered by any one.

Eighteenth Conference.

On April 3 four hours were devoted to further discussion of the question of residence in South Manchuria. The Japanese Minister asked to have the term "farming" changed to "agricultural enterprises," when he learned that "farming" did not according to the Chinese interpretation embrace stock raising. He also asked that leases in perpetuity be granted, and stated that the police and tax regulations must be approved by the Japanese Legation before they could be applied to Japanese subjects in South Manchuria. He was anxious to ascertain, too, what taxes the Chinese Government had in mind when it contemplated new regulations, and was told that they would be none other than what would be imposed upon the Chinese. Mr. Hioki laid it down that Japan must be consulted with regard to the regulations to be framed for joint farming, but the Foreign Minister could not admit the necessity of that being done.

Nineteenth Conference.

The conference on April 6 again saw the Japanese Minister return to the charge in the hope of persuading the Chinese to agree to accept in detail the demand for the right of residence in South Manchuria. The Foreign Minister stated that he had done his utmost to meet the Japanese demand and could do no more. He urged the Japanese to accept the modifications which had been tendered. Again Mr. Hioki pressed for the acceptance of the demand regarding the Hanyehping Company, and once again the Foreign Minister stated that China could go no further than to agree to co-operation. Mr. Hioki declared that he had received instructions from Tokyo to close the negotiations in three or four meetings. Three meetings had taken place since then and they were no nearer a settlement.

Twentieth Conference.

On April 8 further discussion of the South Manchurian question led to the Chinese giving way on the point of changing the term "farming" to "agricultural enterprises," but they declined to entertain the Japanese contention that China should submit the regulations to them. Neither could China submit to Japan the police and tax regulations before enforcing them. The Japanese Minister pressed strongly for these, and stated that Japan was prepared to drop the demand for previous approval provided that China would give some sort of safeguard. The question of jurisdiction arose again. In regard to land disputes the Japanese Minister desired to have these settled by a Mixed Court, but discussion was declined on the ground that the matter was one which affected the sovereignty of China. The demand regarding Fukien was introduced, the Japanese Minister endeavoring to secure some definite statement from the Chinese. This was declined, the Foreign Minister repeating that he could not discuss any of the demands in the fifth group. Mr. Hioki made efforts to dissuade the Foreign Minister, saying that because this demand happens to be in the fifth group that was no reason why it should not be discussed. The Foreign Minister repeated that the articles in the fifth group involved China's sovereignty and the treaty rights of other Powers. Mr. Hioki asked again was China determined not to negotiate any of the articles in the fifth group, and the reply was in the negative. He had nothing else to do but state that he would report the fact to his Government. The Foreign Minister intimated that he had tired of discussing the Manchurian question and was extremely anxious to have it settled. China had done her best to meet the wishes of Japan and so far as the counter-proposals made by China were now concerned they had almost assumed the shape of the original demands by Japan. Mr. Hioki replied that he had not received any instructions from Tokyo.

Twenty-first Conference.

At the conference of April 10 the Japanese Minister once more pressed the Chinese to commit themselves to the demand regarding arms and ammunition or the joint working of an arsenal. Mr. Hioki declared that China had been buying a lot of useless munitions from abroad whereas Japan could furnish the best models. As this business is of a commercial nature the Foreign Minister replied that the proper authorities would look into it. He was a diplomat, he said, and knew nothing about arms and ammunition supplies; and, in any event, there was no necessity for the Government to make any agreement in regard to the matter. Mr. Hioki asked what were China's views regarding a joint arsenal, the Foreign Minister replying that as the subject was one connected with national defence he did not feel at liberty to speak of it. Japan, said Mr. Hioki, desired to see China have the best arsenal. The Foreign Minister was of the opinion that the Government would look into the matter to see which country had the best arsenal and therefore it was idle for them to speak about it. Mr. Hioki pressed to have some understanding made with Japan that if the Chinese contemplated any joint operation of arsenals with any one it should be with Japanese. The Foreign Minister declined to commit his country in any way. The demand regarding Fukien, Article VI of the fifth group, was introduced, Mr. Hioki asking for an undertaking in writing that China would not give other Powers, America in particular, any position there. Mr. Hioki impressed upon the Foreign Minister that Japan was determined to secure dominance there, and intimated that there would be no opposition from America at this time since the Diplomatic Party was in power. As the Foreign Minister would not discuss the matter, saying that it may be taken up at some other time, Mr. Hioki dropped the subject, mentioning that he would report it to his Government. For the first time Article V of the fifth group, in which Japan demanded the right to construct railways from Nanchang to Chuchow, to Wuchang and to Hangchow, was brought up for discussion by Mr. Hioki. The Foreign Minister was emphatic in his objection to discussing the matter on the ground that already some of these lines had been given to another Power, and that Treaty rights would be infringed, as well as the question of China's sovereignty. Mr. Hioki replied that Japan may be able to come to an arrangement with the Power in question if the Chinese now grant them the right to construct the railways. He is also said to have stated that so far as the demand affected China's sovereign rights and the Treaty rights of other Powers, other demands could be construed to do a similar thing. The Foreign Minister declined further discussion on the subject, and again asked Mr. Hioki, to conclude the question of South Manchuria. China had done everything, he reiterated, to meet Japan's wishes in every direction and desired the matter now to be closed. Mr. Hioki stated that he had not received any further instructions from Tokyo on the subject.

Twenty-second Conference.

On April 13 Mr. Hioki stated that he had received instructions from Tokyo again to insist that the proposed regulations to govern farming operations and the leasing of land in South Manchuria be drafted in consultation with representatives of Japan, and that the regulations for the police and taxation be submitted to Japan for approval before they are promulgated by China. The Foreign Minister said that he would report the matter to his Government, and expressed regret that Mr. Hioki had not received instructions to settle the Manchurian demands definitely, a thing which the Chinese Government was desirous of doing and had repeatedly requested. The Japanese Minister referred to Group 5 of the demands, the articles of which the

Chinese Foreign Minister declines to discuss but which Mr. Hioki continually brings forward. Mr. Hioki said that he could only consider China's effort to avoid discussion of these demands as disregarding his views, a point which the Foreign Minister declined to admit. Rather, he pointed out, the fullest consideration had been shown Mr. Hioki, more, indeed, than was necessary. Mr. Hioki alluded to the demands of Japan for the railways in Kiangsi Province, those from Nanchang to Chaochowfu, to Hangchow, and to Wuchang, the two former of which have been definitely given to Great Britain. He expressed the opinion that China had accorded favourable treatment to Great Britain and had granted that Power what had been denied Japan. The Japanese Government, he said, considered that to be an act of disrespect and he could not help expressing his disappointment. He declared that the late Mr. Yamaza, Japanese Minister at Peking, had approached the Waichaiopu last year on this question but his representation was not given any consideration. The Foreign Minister pointed out that at that time the Chinese Government had already signed an agreement with Great Britain. Mr. Hioki replied that the Japanese Foreign Office had approached the Chinese Government in 1907 but their note remained unanswered to this day. Mr. Hioki asked for a "yes" or "no" to the demands for these railways, and requested to know if the Chinese refused to discuss the subject on account of the agreement with Great Britain. The Foreign Minister replied in the affirmative, which brought from Mr. Hioki the statement that if China would grant the railways to Japan a compromise could be effected with Great Britain. The Foreign Minister gave a negative reply, stating that definite agreements had been come to.

Twenty-third Conference.

On April 15 Mr. Hioki endeavored to have the question of Eastern Inner Mongolia—which was, in the demands presented by Japan, coupled with South Manchuria, but which the Chinese have so far declined to discuss in that connection—dealt with on terms similar to South Manchuria. The Chinese Foreign Minister expressed the opinion that while the Government might be willing to open several ports of trade in Eastern Inner Mongolia it was not possible to admit that there were any grounds for placing that territory upon the same footing as South Manchuria. He suggested that China might be inclined to consider what could be done in the matter if Japan would definitely withdraw the fifth group of demands. Mr. Hioki said that he had no instructions in that regard and could not say anything till he had instructions, but he asked what Japan might expect if the fifth group of demands was withdrawn. The Foreign Minister mentioned that he was voicing his own thoughts, and would have to receive instructions from his Government before he could further discuss the matter.

Twenty-fourth Conference.

On April 17 the question of China submitting the proposed police and taxation regulations to Japan before they are enforced upon Japanese subjects was revived by Mr. Hioki who said that by police laws Japan meant those laws which defined punishment and penalties. With regard to Eastern Inner Mongolia Mr. Hioki asked what China would do, the Chinese Minister of Foreign Affairs replying that his Government could not see its way clear to do any more than to promise to open certain places to foreign trade. The country was not developed to any extent nor was the country very quiet and it would be unwise to force an entry into the region. Mr. Hioki reiterated the nature of Japan's view of the demands connected with Eastern Inner Mongolia and said that his Government was determined that its view should be maintained. He was sorry that he and the Minister of Foreign Affairs could not come to a compromise on the matter and suggested that if that remained impossible some unpleasantness might result. Mr. Hioki referred to the Hanyehping demands. The Chinese counter-proposal, he said, referred only to the first article, but he wished to speak of the second one. The Foreign Minister said that the Chinese counter-proposal covered both articles. The Government could agree to co-operation in working the Hanyehping enterprises, but nothing could be done unless the Hanyehping Company approved it, so the Government could do nothing further. With regard to the demand for railways, Mr. Hioki said that he and his Government were exchanging telegrams on the subject and when his instructions arrived he would inform the Chinese when the next conference would take place.

MODEL ABATTOIR IN TSINGTAU

It is doubtful if in any city in the world the slaughtering of cattle for consumption is conducted under more sanitary and painstaking auspices than in Tsingtau. One can with perfect confidence eat the meat bought from the slaughtering plant, for every head is killed and prepared for the market under the personal supervision of a German qualified to act in that capacity. Soon after the occupation of Kiaochow by the Germans the necessity for the establishment of an abattoir along hygienic lines became apparent. The German Reichstag appropriated money to build the institution, which was done under the control and supervision of competent veterinarians, and it stands to-day a model of its kind in the Far East on a site far removed from the dwelling part of the city and close to the sea. The city's electric-power station and the tallow and hide warehouse of an American firm are its only neighbors. The refuse is carried direct to the sea, and the odors never penetrate he city.

An "administration house" is occupied by the chief veterinarian; his assistants in bacteriological work are located in an up-to-date laboratory. The slaughterhouse itself consists of a large, clean, tiled room for killing cattle and another of the same for slaughtering smaller animals. Adjoining, there is a place for housing cattle pending an examination as to their condition, as well as space for housing and killing diseased cattle, there being a special entrance to the latter to avoid contamination. There are also a crematory for dead animals and cold-storage plants. The place is well ventilated and electrically lighted throughout.

CROSSBREEDING—BACTERIOLOGICAL RESEARCH—PRICES

While it is the duty of the chief veterinarian and his assistants to personally inspect all meat and to see that nothing issues from the plant without the Government seal thereon that is the guaranty of its purity, they also endeavor by crossbreeding with prize German stock to increase the milk production of the Shantung cattle. Bulls and cows of the Friesian breed are imported, and it is confidently expected that after the third generation the Shantung cows, now giving but 3 or 4 quarts of milk, will yield at least 15 quarts. The same experiments are being made with hogs, goats, pigs, and sheep, and with the German crossbreed a vast improvement is now noticeable. Only white pigs are being slaughtered for the foreign consumption.

The chemical laboratory is equipped with all modern appliances for the complete testing of meats and milk and for the manufacture of certain serums, and cultures of bacteria of the various animal diseases are kept, with the usual number of guinea pigs, chickens, pigeons, white mice, etc., for experimental purposes. A rinderpest serum manufactured in this laboratory has been proved very effective. An army veterinarian has been detailed to this laboratory by the Government for research work.

The average monthly slaughter for local consumption amounts to 410 head of cattle, 715 hogs, 180 sheep, and 200 calves. While the price of meat varies with the nationality of the dealer it is precisely the same meat and must bear the Government stamps.

THE SZECHUAN CONCESSION

The directors of the Eastern Pioneer Company, Ltd., announce that after nearly twelve months' negotiation they have just completed a contract between the Company and a financial group consisting of S. Pearson and Son, Ltd., The Central Mining, and the British and Chinese Corporation, Ltd., by which the financial group take over the control and administration of the company's rights and interests in the Province of Szechuan. The directors add that full details of the contract cannot be embodied in a circular, but that they will take the earliest opportunity available to give such further information as in the shareholders' interests should be published. It might be explained that the Eastern Pioneer Company held the right obtained under what was known as the Pritchard Morgan Concession, the full history of which was given in the FAR EASTERN REVIEW of June, 1914.

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THE GOOSE AND THE GOLDEN EGG

The excellent results so far attained by the reorganization of the Salt Administration of China have stirred the cupidity of several provincial officials, and a movement is afoot in quarters to persuade the President to order a further increase of the salt tax. It is reported, too, that the present acting Minister of Finance, Mr. Chou Hsueh-hsi, is inclined to favour the proposals of the provincial officials. We sincerely trust that rumour, in this respect, is the lying jade she is often credited with being, and if she is not it is to be hoped that wiser councils will prevail and this suggested interference with the plans of Sir Richard Dane and Mr. Chang Hu, the Co-Chief Inspectors, will be prevented. When Mr. Chow Tze chi was Minister of Finance, and ex-officio Head of the Central Salt Administration, a movement by certain provincial governors to inspire an enhancement of salt taxation was firmly nipped in the bud. The Governors then active were, principally, those of Fengtien, Hunan and Shensi. They individually memorialised for an increase in order that, as one of them put it, "several tens of millions of dollars may be collected;" and, as another put it, that an increase of about $50,000,000 might be available "to multiply the bank notes issued by the Bank of China to twice the present, and thus stimulate the circulation of the money market." Another proposal was for an increase of the salt tax to replace a reduction of the duties on merchandise in Kiangsu and Chekiang Provinces. These proposals were handed to the Ministry of Finance and the Central Salt Administration for consideration, and very properly were frigidly rejected, the Memorandum of the then Minister of Finance to the President (which was published in the *Government Gazette* of February 28th, 1915) suggesting that the petitioning Governors and Finance Commissioners "be ordered to open up locally other sources of revenue than that of salt. . . . and be informed that funds already arranged for by the Central Government must not be brought up for discussion again, so that they cannot resort to empty talk which will result in nothing." The Memorandum also curtly announced that the Finance Ministry and the Central Salt Administration were in charge of the general direction of salt affairs and therefore the responsibility of enchancing the rate of tax and of increasing its collections could be "shifted to nobody else." It pointed out, further, that "when the reorganization of the salt works had made some progress; when the smuggling of salt had been stopped, and when the quantities marketed were flourishing they would certainly investigate the conditions of the various districts and from time to time consider the enhancement of the rate of the salt tax to be collected in order to supply the financial needs of the Government."

At the period when this Memorandum was written the Minister of Finance and the Central Salt Administration had no intention of permitting any indiscriminate interference with salt taxation, and it is interesting to note that the President concurred in the principle, his rescript to the Memorandum being, "Let the said Ministry and the Yen Wu Shu (Central Salt Administration) inform the Governors accordingly." The officials who now propose an increase of the salt tax, believe, of course, that the consumers can sustain the burden and that the finances of the Central Government will, therefore, without difficulty, be further enhanced. We believe the theory to be faulty. In the regulations published at the end of 1913 dividing the country into areas it was laid down that the tax should be $2.50 per picul. That amount has now been reached in Shantung, Kwangtung, parts of Chekiang, Chihli, and Honan. In Shansi and Manchuria it has been raised to $2. In the four Yangtsze Provinces, where the old *yin* system exists, the taxation is far higher than this, amounting to Taels 3, ($4.50) per picul, one tael of which will in future be collected in advance before the salt leaves the depot where it is stored for issue to the trade, and the remaining two taels after the salt has been sold by the sale office appointed by the Government. In Yunnan also the taxation on salt is already enormous, amounting to $4 per picul and often over in places. In Szechuan, where owing mainly to the disturbed state of the Province reorganization has not yet been undertaken, the duties are lower than they are in other places, but, as in Yunnan, the cost of production of the salt, which is made from well brine, is very high.

This, briefly, is the state in the country to-day, and it is a state that was gradually being adjusted by Sir Richard Dane and Mr. Chang Hu. It would therefore be regretable if their programme should be disturbed by any ill-advised, though well meant, attempt to gather in more revenue by the imposition of any further burden upon the consumer. One of the evils that would arise immediately taxation became too oppressive would be a marked increase in smuggling. The preventive force of the Government is so far inadequate to cope with any development of smuggling, and it is not likely to become efficient unless supervised by experienced foreigners. At present that is impossible, the terms of the Reorganization Loan Agreement precluding foreigners from taking part in the control of a preventive service. Not only would the raising of the tax place a premium upon smuggling but the incidence of such a step would be that a certain number of very poor people would be compelled to forego the use of salt altogether or consume very much less than would be sufficient for their natural requirements. We fear the effect of greater taxation on the poor has been overlooked by these officials who advocate an increase, and we trust that the fullest consideration will be given any measure which might be oppressive. The revenue from salt has been enhanced, so far, only by the methodical employment of the experience and knowledge of experts, and if the zeal of enthusiastic but short-sighted provincial officials is permitted to sway in the councils of those who have the power to increase taxation then we are very apt to witness a repetition of the oft-repeated misguided slaughter of the goose that lays the golden egg.

The present acting Minister of Finance is an official with knowledge of business, with experience of the ways of the salt merchants, and with some understanding of the working of the salt administration under the Manchu regime. He is said to be long-headed and to be firm, and with these attributes it is difficult to believe that he will be short-sighted. It is sincerely to be hoped that he will co-operate with Sir Richard Dane and Mr. Chang Hu—than whom China has no more loyal or hard-working servants, and none who inspire greater confidence—in the enforcement of other reforms. A modification of, or a total abolition of the Government transportation and merchant transportation systems, and the inducement of Salt Commissioners to be amenable to existing orders and regulations will produce more additional revenue than an enhanced tax at this juncture, and in this sphere the Minister has considerable and far-reaching work at hand. The gratifying and, indeed, surprising collections made last year were not the result of the waving by Sir Richard Dane and Mr. Chang Hu of some magic wand. The money was there, and has been there, and the Co-Chief Inspectors simply knew the methods to adopt to extract some of it from the privileged merchants and salt commissioners who, from time immemorial, have retained it for the upkeep of their costly establishments. They also know how to get more of it, but to do that tact, firmness, and patience will be required, and in addition they must have the whole hearted support of the Central Government. All well-wishers of China earnestly hope, and look forward to, a continuance of the excellent work so far carried out by Sir Richard Dane and Mr. Chang Hu. This, combined with serious and skilful reform of the Land Tax, referred to elsewhere in this issue, may well mean the salvation of China.

CHINA'S NEW DOMESTIC LOAN

A most important advance in the furnishing of finances for China's administrative needs was made this month when the Government of the Republic entered into an arrangement with the Hongkong and Shanghai Banking Corporation—the foremost foreign financial organization in the Far East—to assist in the flotation of an internal, or domestic, loan of $24,000,000, issued at 90 per cent, and bearing interest at the rate of 6% per annum. Last year the Government successfully issued a similar loan, the interest being handed to the Inspector-General of Customs for deposit in nominated banks. The Hongkong and Shanghai Banking Corporation was not connected with that loan, but subsequent negotiations with the Government led to the Corporation agreeing to participate with the Bank of China and the Bank of Communications in making the new issue. This co-operation with the Government of the greatest British banking establishment in this part of the world is pregnant with far-reaching results. Not only will it assist in the development of a greater confidence in the Chinese banks with which it is associated, but it will do considerable to remove from the minds of the Chinese people themselves the doubts they have always entertained regarding the value of bonds issued by their own Government. That, of course, is the prime object of its participation. In the days of the old Manchu regime Chinese investors had every reason to be wary of dealing with domestic issues. Money invested with the Government in those impecunious and uncertain days went never, or seldom, to return, with the eventual result that instead of employing their capital in their own concerns Chinese mostly banked with foreign institutions in the Treaty Ports, or invested their money in enterprises conducted by foreigners.

It has long been known that Chinese have held millions of dollars idle in foreign banks while the Government went begging abroad for financial assistance. How to inspire confidence in the minds of the Chinese capitalists so as to induce them to circulate their idle wealth in the interests of their country is a problem that has frequently floored the crabbed intellects of the monarchic period. Cajolery and coercion have alike failed. Nor is that surprising. Officialdom has, in the past, been so closely associated with legalised highway robbery, and the depredations have been so many, so barefaced, so persistent, and so crude that it is only natural that all owners of even limited wealth either hid it or took it to some Treaty Port for safekeeping. Happily that condition is gradually being changed. The present regime has made great efforts to demonstrate that it intends to stand by its obligations, and the response so far has been decidedly encouraging. The recent redemption of 8 per cent military bonds issued during the Revolution was such an unusual and unexpected occurrence that bond holders and the Chinese public at large gasped with sheer astonishment. They had hardly recovered from that physical shock when the second domestic loan was announced with the direct inducement of a leading foreign bank guarantee of the interest and principal. As the interest of the first domestic loan is paid and the bonds redeemed so will confidence gradually be built up in the present administration, and when public confidence is restored and citizens are induced to employ their hoarded wealth in the affairs of the country of their origin then most of China's financial difficulties should diminish into mere local affairs instead of looming large, as they do now, as international concerns. It was a happy thought which devised the scheme for the recent domestic loan. It is said that it matured in the mind of a banker whose institution does not figure in the scheme as applied. If that is so and the measure largely rehabilitates Chinese national finance, as there is every likelihood of it doing, the Government is under a debt of gratitude to that banker, which it should lose no time in paying.

The principal feature of the loan is that the Ministry of Finance (according to Article V of the Regulations) is to raise the full amount of $1,440,000, which is the amount of interest on the loan for one year, and hand it to the Inspector-General of Customs to be deposited by him in his name in the Bank of China and the Bank of Communications, to be permanently deposited there as a guaranty for the interest. Besides this sum the Ministry of Finance is also to appropriate every month a sum of $120,000 and hand it to the Inspector-General of Customs to be deposited by him in Loan Service Accounts in the above mentioned banks for the payment of interest on the due dates. This money is to provide for the interest as it falls due, and the principal is to be secured in a similar manner, Article VI of the Regulations stipulating that beginning from the third year, the funds for the repayment of principal of the loan shall be appropriated and deposited as arranged for the interest.

These provisions are the safeguards to demonstrate to the pardonably nervous Chinese that their capital will be amply protected, and likewise they will constitute sufficient guarantee to foreigners resident in China, or abroad for that matter, that any investments in bonds that they might make will be carefully

secured. The association of the Hongkong and Shanghai Banking Corporation with the scheme is sufficient in itself to remove any of the doubts which in the past used to assail those tempted to deal with purely Government financial measures, but in addition the public now has earnest of the good intentions of the Government itself to safeguard the interests of the general public. Once the Government can conclusively show that the tricks of the past have been relegated to the limbo of obsolete and forgotten practices, its dealings with its own people will need no bolstering by foreign institutions, and there is abundant evidence to show that the President is setting his mind to the task of accomplishing this desideratum. It will do more than anything else to put the country upon its feet.

As a matter of record as well as of interest we give herewith the prospectus and the Regulations governing the loan as published by the Government. Subscription Lists were opened on April 12, 1915, to be closed on or before May 12, 1915:—

Prospectus

CHINESE GOVERNMENT 6% INTERNAL LOAN OF 1915

Under the regulations annexed hereto, as authorised by Presidential Mandate dated the 9th day of the 2nd month of the 4th year of the Republic of China, corresponding to the same day and month of 1915.

$24,000,000, Peiyang and New Republican Dollars.

The above loan of $24,000,000, is now offered to the public for subscription in China, Straits Settlements, Philippines, Java, etc., in bonds to bearer of $10,000, $1,000 $100, $10, $5, (with coupons attached), bearing interest at the rate of 6% per annum; interest payable half yearly on the 12th October and 12th April in each year. The first coupon for a full 6 months' interest will be payable on the 12th October, 1915.

Repayable in 8 years in six annual instalments commencing with the third year in accordance with the amounts and dates of the amortisation table attached.

Drawings will take place on the 15th February in each year commencing 15th. February, 1918, and the drawn bonds will be due for payment on the 12th April following.

Bonds and coupons are exempt from all Chinese taxes and imposts.

The Hongkong and Shanghai Banking Corporation, The Bank of China, and The Bank of Communications having been designated by the Chinese Government to be issuing banks are now prepared to receive subscriptions for the loan.

The price of subscription is 90%, payable as follows:—

10% on application; 30% on allotment; 50% on 28th June, 1915.

Applications must be made on the enclosed form, accompanied by the deposit of 10 per cent.

If no allotment is made the deposit paid on application will be returned in full, and if only a portion of the amount applied for be allotted, the balance of the deposit will be appropriated towards payment of the amount due on Allotment.

Failure to pay any of the instalments at due dates will render all previous payments liable to forfeiture.

Scrip certificates to bearer in respect of the loan bonds will be issued against allotment letters; and bonds, printed in Chinese and English, signed and sealed by the Minister of Finance and the Comptroller-General of the Bureau of National Loans will be delivered in exchange for Scrip Certificates, when ready, as soon as possible after the 28th day of the 6th month (28th June) 1915.

Prospectuses and Forms of Application may be obtained from any of the Offices of the Hongkong and Shanghai Banking Corporation, The Bank of China and the Bank of Communications.

Peking, 8th April, 1915.

REGULATIONS OF THE DOMESTIC LOAN OF THE FOURTH YEAR OF THE REPUBLIC OF CHINA

Art. 1.—The government issue this loan for the purpose of adjusting the old debts and increasing the funds of the National Treasury. The authorised amount of this loan shall be twenty-four million dollars ($24,000,000).

Art. 2.—The rate of interest of this Loan shall be six per cent per annum (6%.).

Art. 3.—The interest of this Loan shall be paid half yearly on the 12th day of April and the 12th day of October of each year.

Art. 4.—During the first two years following the date of issue of this Loan, only the interest thereon shall be paid: commencing from the third year, the amount of redemption to be made each year in accordance with the schedule of repayment to be hereto attached, shall be effected by the drawing of bonds and the entire amount of this loan shall be redeemed in the eighth year. The above mentioned drawing of bonds shall take place at Peking, on the 15th day of February of each year.

Art. 5.—The Ministry of Finance shall raise the full amount of one million four hundred and forty thousand dollars ($1,440,000.), which is the amount of interest on this Loan for one year, and shall hand it over to the Inspector General of Customs to be deposited by him in his name in the Bank of China and the Bank of Communications, to be permanently deposited there as a guaranty for the interest. Besides this sum, the Ministry of Finance shall likewise appropriate every month a sum of one hundred and twenty thousand dollars ($120,000) and shall hand it over to the Inspector General of Customs to be by him deposited in Loan Service Accounts in the above two banks for the payment of interest on due dates.

Art. 6.—Beginning from the third year, the funds for the repayment of principal of this Loan, shall be appropriated and deposited in the same manner as stated in Article 5.

Art. 7.—This entire Loan is secured, in respect to the repayments of principal and payments of interest, by the unconditional guarantee of the Chinese Government and by a first charge on the unpledged revenues of the Native Customs of the Republic, specified below, and the Revenue from Likin of the whole Province of Shansi.

The amount of the above mentioned revenues is as follows:

		Total annual receipts
a.	The Yang Yiu Native Customs of Kiang Su, yearly receipt	$470,000
b.	The Native Customs in Amoy, Min-an, Chu-chi, Hung Tang, Chung An, Pu Cheng, Kuan Tse, Shang Hang, Peiling, yearly receipts	$360,000
c.	The Native Customs in Wenchow, Hsun Chow, total annual receipts	$232,000
d.	The Native Customs in Hai Nan and Swatow, total annual receipts	$530,000
e.	The Native Customs in Ching Chow " " " " Wu Chang	$700,000
f.	" " " " Han Yang " " " " Kiang Si " " " " Chen Chow receipts	$348,000
g.	" " " " Pao Ching " " " " Tung Kuan " " " " Kuei Kuan " " " " Cheng Tu " " " " Ning Yuan receipts	$420,000
h.	" " " " Yung Ning " " " " Yeh Chow " " " " Kuang Yuan " " " " Ta Chien Lu " " " " Tai Ping Kuan	$300,000
i.	" " " " Kalgan	$540,000
j.	Total Likin revenue in Shan-si yearly receipt	$1,000,000
		$4,000,000

Art. 8.—The repayments of principal and the payments of interest of this Loan shall be made by the Head and Branch Offices of the Bank of China and the Bank of Communications, the foreign bank or banks entrusted in that capacity by the Government, substantial native banks and the Maritime Customs Houses.

Art. 9.—The Bonds of this Loan shall be issued at ninety per cent (90%) of the nominal value.

Art. 10.—The Bonds of this Loan shall be Bearer bonds. In case the subscribers request the affixing of their names on them, their requests may be complied with.

Art. 11.—The Bonds of this Loan shall be of the following five denominations:—

1.	$10,000	each
2.	1,000	"
3.	100	"
4.	10	"
5.	5	"

Art. 12.—The above Bonds when they are due for the repayment of principal and their matured coupons can be used as cash in payment of Government Taxes and duties, other than Maritime Customs duties, and for other purposes as ready cash.

Art. 13.—The above Bonds can be used as guaranty fund or the fiduciary reserve of banks.

Art. 14.—The above Bonds can be bought, sold, mortgaged or used as security in case where a guaranty fund is required in the public service.

Art 15.—All officials and other persons concerned in the transactions of the above Bonds, who by any action injure the credit of the same, shall be liable to punishment in accordance with the regulations relating to the injury inflicted upon the credit of Internal Loans.

Art. 16.—Fifteen days prior to the date of repayment of principal or payment of interest of this Loan, the Ministry of Finance shall petition the President to appoint two Censors and two Auditors of the Board of Audit, who shall proceed to the Bureau of Domestic Loans, the Bank of China and the Bank of Communications to inspect the accounts and fund for the repayment of principal and payments of interest of this Loan. The Censors, the Auditors of the Board of Audit, and the authorities of the Ministry of Finance shall also jointly superintend the drawing of bonds for redemption.

SCHEDULE OF INTEREST AND AMORTISATION

Year.	Interest	Repayments of Capital.	Balance of Loan outstanding.
1.	1,440,000	.....	24,000,000
2.	1,440,000	.....	24,000,000
3.	1,440,000	3,460,000	20,540,000
4.	1,232,400	3,667,000	16,873,000
5.	1,012,380	3,887,000	12,986,000
6.	779,160	4,120,000	8,866,000
7.	531,960	4,368,000	4,498,000
8.	269,880	4,498,000	nil.

CHINA'S MOST INTERESTING RAILWAY

With the recent opening of the railway to Tatung, through traffic has been made possible between stations on the Chinese northern railways and this distant city in Shansi, and the authorities of the Peking-Kalgan railway and the Tientsin-Mukden railway have now arranged for through trains to run from Fengtai to Tatung and vice versa. Passengers from Tientsin will be able to book right through, and will take the Tatung train at the Fengtai junction. A train leaves there every day at 10:35 in the morning, and reaches Kalgan at 5:43 in the afternoon. Passengers will stay over night at Kalgan, and will leave the following morning at 8:30 for Tatung, arriving there at 3:10 in the afternoon. For the return journey the train leaves Tatung at 8:50 in the morning and arrives at Kalgan at 3:30 p.m. The following morning the train leaves for Fengtai at 7 p.m. and arrives at Fengtai at 1:54 p.m.

In the FAR EASTERN REVIEW of August, 1913, we published a description of this railway. The final section was then in course of construction. That is now completed, and the line is being pushed on still further. Tourists travelling with a desire to see the country will find the journey over this railway one of the most interesting and picturesque in China. The railway climbs up the famous Nankow Pass, where the Great Wall of China is strikingly in evidence, to the plateau, when it traverses interesting country to Kalgan. Thence river valleys are followed, and mountain ridges skirted to Tatung, walled cities, further lengthy sections of the Great Wall, and rolling country being greatly in evidence. There is none of the monotony of great plains that is so conspicuous a feature of the eastern section of China. Here are the mountains with the variation which mountainous country affords.

THE HWAI RIVER CONSERVANCY

In this issue we publish the full report of the Commission which was despatched by the American National Red Cross to report upon the feasibility of conquering the flood propensities of the Hwai River. Colonel Siebert and his staff of engineers made a careful investigation of the affected territory and conclude that the necessary work can be carried out not only to avert floods but also to reclaim a large and rich area of country. Colonel Siebert's report has been delivered to the American National Red Cross and there active work ends for the nonce. The great war in Europe has interrupted this engineering scheme as it has interfered with many other propositions where finances are required throughout the world, and it is felt in certain quarters in America that it will be some time after the conclusion of the war before money will be available for what is regarded as a purely philanthropic work when there will be such a large demand for money for essential reconstruction purposes in Europe. In order to give the American National Red Cross an opportunity to complete the task upon which it has already spent considerable money, the Chinese Government recently extended the option granted on January 13, 1914, for another year. This option gave the American National Red Cross a year in which to prepare and effect a Hwai River Conservancy Loan. The amount of the "loan is set down in the option agreement at $20,000,000 or such sum as may be found necessary, after complete surveys have been made, to carry out the work of improving the water courses embraced in the Hwai River district . . . and the Hungtzu Lake, together with the contemplated outlets to the sea and the Yangtsze River." The agreement provided also that the loan should bear interest at the rate of five per cent per annum, the price of issue of the bonds to the public to be fixed according to the most favorable market price of other Chinese bonds. The agreement further stipulated that the work should be carried out under a percentage contract by an approved construction company, and in the early stages the name of Messrs. J. G. White and Company, of New York, was connected with the proposition. Considerable interest was exhibited in the scheme in America and before the European war broke out it was stated that the capital necessary was practically available. Such is not the case now, though the American National Red Cross is hopeful that the money will be forthcoming in due course. Everything, naturally, depends upon the duration of the war. In the meantime negotiations are proceeding, and pending the decision of the Red Cross the Chinese Government, through the Conservancy Board, is making further investigations and collecting data in the Hwai River region, the possession of which will be valuable and expedite work if it is eventually undertaken on the scale originally contemplated.

SHANTUNG CATTLE EXPORT

An American firm was engaged at Tsingtau in exporting cattle to Vladivostok. The representative of this firm entered the interior of the province and purchased cattle directly from the Chinese owners, or in the regular market towns, where all kinds of produce are exposed for sale at regular periods of five days. Exports to the Philippine Islands were formerly made from Shantung, but, owing to the prevalence of anthrax and other cattle diseases, the importation into the islands was prohibited.

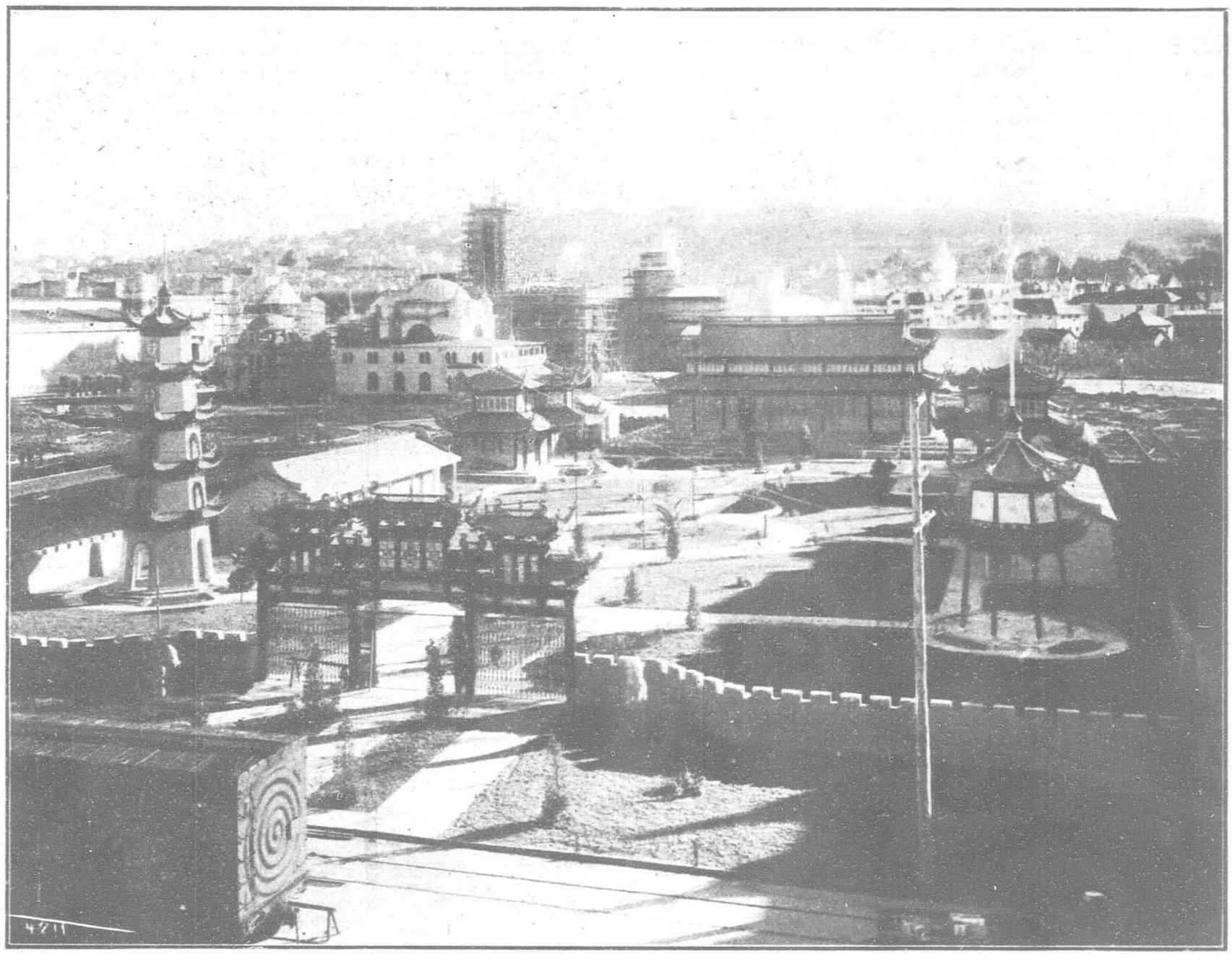
As cattle are not grown in China to any great extent, there are no large cattle ranches, each small farmer raising such stock as he may himself need. Cows are not used for milk by the Chinese people, but are yoked with oxen, or with any other available animal, and used in cultivating the fields. Foreign buyers can afford to pay prices which appeal to the owners of cattle.

In a few places in the province, especially those towns where Occidentals are living, the Chinese raise cows for milking purposes, and even the better-class natives are taking kindly to the use of milk. It is the fear of typhoid germs in the milk that makes the sale of the tinned products so large among the foreign population of China.

Efforts have been made to introduce German cattle in Tsingtau, but without success. The local cattle are apparently more or less immune from the effect of anthrax and other diseases, as they continue living and thriving even with these diseases prevalent about them. Foreign cattle, however, die almost immediately. A few years ago the German Government brought out a dozen of the finest breeds of German cows, but within two weeks after arrival they had all died. Doctor Martini, a German bacteriologist, for many years chief assistant to Doctor Koch, was sent out to investigate the cattle diseases, and endeavor to eradicate them within the German territory. So far as he can discover the prevalence of anthrax has been greatly exaggerated, although undoubtedly other cattle diseases exist.

There were shipped through the port of Tsingtau from central Shantung during the year 1913, upwards of 93,000 quarters of dressed beef, the bulk of which was destined to Vladivostok for the use of the Russian Army. Two thousand to three thousand head of cattle a month are being shipped from Tsinanfu via Tsingtau to Vladivostok for this purpose. These cattle weigh 800 to 900 pounds each and sell for about 3 cents a pound on the hoof. It costs $20 U. S. currency per carload of 15 head to ship them from Tsinanfu to Tsingtau, where they may be loaded upon steamers which come alongside piers.

The Chinese populace eat little or no beef, with the exception of the Mohammedans, considerable numbers of whom live in Shantung. Tsinanfu appears to be the center of the export trade in cattle for Shantung and southern Chihli.



General View of China's Enclosure and Buildings at Panama Pacific Exposition.

CHINA AT THE PANAMA EXPOSITION

The Chinese Government Pavilions at the Panama Exposition were formally opened at 2 o'clock on the afternoon of March 9, when dedicatory ceremonies, strongly tinged with Oriental ideas, were held. Kee Owyang, Commissioner and Director of Foreign Affairs, presided. Commissioner-General Chen Chi and Consul-General S. C. Shu gave addresses for China, while appropriate responses were made by Exposition officials.

A feature of the ceremonies was the singing of American songs by Chinese students. There also took part the pupils of two Chinese grammar schools, the older girls of the Chinese high school and Chinese students at the University of California. Included in the choral numbers were "The Star-Spangled Banner," "Hail Columbia" and other patriotic songs. Orchestral selections were furnished by Orchestra of the Chinese Six Companies.

The Chinese pavilions represent palaces in the Forbidden City of Peking, where for centuries the rulers of China have presided. There are three of these miniature palaces, including the great hall of Tai Ho Tien, or "Hall of Eternal Peace," where the late Empress Dowager received the foreign ambassadors and highest dignitaries of state in audience. This hall is now in the possession of the Republican Government, which has changed its name to Li Tang, or "Temple of Ceremonies."

The three palaces are true representatives of the buildings in the Forbidden City and are unique among the structures at the Exposition. The interiors are also true replicas of the ancient structures, where princes of the royal blood have lived for many years. Likewise the furnishings are truly Oriental and copied as near as possible from those in the great structures in the far-away Forbidden City.

There are large and small screens, wooden carvings and silken draperies; porcelain and old scrolls and pictures, a true representation of the best artistry work for which the Chinese have been known for centuries.

The central pavilion possesses some exquisite black teak wood furniture carved in the so-called Canton fashion. The seats of the chairs are of stone and there are inlaid porcelain decorations. The two other buildings also are furnished with different kinds of inlaid and carved wooden furniture, such as are only made in Ningpo and Peking.

In the centre of the main building are pictures of the President and Vice-President of this youngest of all the republics, His Excellency Yuan Shih-kai and Li Yuan-hung, who conquered the forces of the old rulers and who were the actual military chiefs of the revolutionary forces in 1911 when the revolution commenced. It was this revolution that resulted in the oldest and most conservative nation of the world throwing aside its monarchial government centuries old and suddenly becoming a democratic nation under a republican government. There is also an enlarged photograph of the present Secretary of State, Hsu Shih-chang, who under the last dynasty was grand councillor and tutor of the young Emperor.

Preceding the formal dedicatory ceremonies a luncheon was given by President Moore of the Exposition in honour of Chen Chi, Commissioner-General for China.—*Peking Gazette.*

It was a curiously mixed throng, says a San Francisco paper, at the dedication exercises, and included Chinese of high and low degree, state, foreign and exposition officials, and a great crowd of people of all nations who were interested in seeing the formal opening of the buildings of the Celestial republic.

Peace, and the peaceful part China has played in the world's progress, was the keynote of nearly all the speakers at the exercises. These included Commissioner Kee Owyang, Commissioner-General Chen Chi, Vice-President of the Exposition R. B. Hale, Consul-General S. C. Shu, William B Lamar,

HALL WHERE OPENING DAY CEREMONIES TOOK PLACE.

chairman of the United States Commission to the exposition; Mayor James Rolph and Chester Rowell, representing Governor Hiram W. Johnson.

The ceremonies opened with a selection by the Chinese band, after which Commissioner Kee Owyang, who acted as chairman, spoke.

"This," declared the Commissioner, "is our response to the invitation extended us by the Government of the United States—the Government which China has long looked upon as her best friend. We have been extremely glad to avail ourselves of this chance, and to increase, if possible, our friendliness with this great nation. China owes much to the United States, and we are rather proud of the fact that nearly all of China's leading statesmen have American college educations."

Commissioner-General Chen Chi spoke in similar vein, and declared that the exercises marked the closer unity of the two largest republics on the Pacific. "Incidentally," said the Commissioner-General, "this friendship between China and America is significant. Not only are we the two largest republics on the Pacific, but we are the two richest nations on earth in actual resources. History will show that there have never been two countries which felt and maintained toward one another the peaceful and friendly relations that always have existed between China and the United States."

Vice-President R. B. Hale, representing the directorate of the exposition, then presented the Chinese Commissioner-General with a bronze plaque, which he declared was both a token of friendship and an acknowledgment of the splendid work and achievement of China.

William Bailey Lamar, chairman of the United States Commission, who is a Southerner, extended the greetings of the Government to the Chinese officials, and declared that the South expects the Panama Canal to open up a great field for its cotton in China.

Consul-General Shu talked briefly on China's progress in recent years, and declared that visitors to this exposition probably will get an entirely different idea of China from that now held by most people. He also urged the audience to view not only the Chinese Government pavilion, but also the exhibits of China in the exhibit palaces. "I believe that our progress since the last world's exposition will startle many people who see our exhibits at this time," he said.

Speaking for the Governor, Chester Rowell greeted the Chinese Commissioners, and touched on the fact that it was on the exposition grounds that the flag of the Chinese republic was first raised and saluted on foreign territory.

Mayor Rolph also extended his felicitations, saying that

FIVE STORY PAGODA WITH BELL-HUNG EAVES.

while part of the Great Wall of China still stands, it no longer stands as a barrier to the progress of that nation.

After the exercises the doors of the three main buildings were thrown open.

RAILWAY CONFERENCE IN PEKING.

On April 5th the International Railway Conference, consisting of representatives from the Imperial Government Railways of Japan, the Korean Railways, the South Manchuria Railway and the Chinese Railways, was opened at the Ministry of Posts and Communications at Peking by Mr. Yih Kung-cho, Vice-Minister of Communications. It was hoped that representatives of the Chinese Eastern Railway and the Russian Railways would also have been present, but owing to the war they were not able to avail themselves of the opportunity. Mr. Yih welcomed the delegates in an excellent speech, to which Mr. Kinoshita, Traffic Manager of the Japanese Railways, responded.

The principal subject discussed was that connected with the arrangement of circular tours from Tokyo via Shimonoseki, Fusan, Peking, Tientsin, and Shanghai, and for the accommodation of tourists arriving at Yokohama to visit Tokyo and other places and take train for Peking via Fusan, Mukden and Tientsin, returning to Japan via Shanghai and Nagasaki. A satisfactory arrangement was reached. Other questions such as the arrangement of time tables, fares, freight rates, cheap excursions, etc., were also discussed.

SOME FACTS ABOUT CHINA'S LAND TAX

A Glance at old Conditions of Assessment and Tax Collection Which the Government of China has now Begun to Reform

(By R. S. A.)

With the inception of a Republican form of government in China hundreds of the new school of Chinese proposed various reforms. They embraced political, financial, commercial, and industrial proposals, all inspired by the idea of saving this country from the national death which threatened as a result of past unwillingness to keep pace with the times. Needless to say the larger percentage of the schemes, which were of a financial and political nature, were never taken into serious consideration. The Government was, however, bent upon placing the finances upon a sounder basis, and in attempting reforms various means were sought, and scores of bureaux were established for the furtherance of investigations into this the most complex of all questions which face the Peking Government.

Since 1912 the following gentlemen have held the finance portfolio: Dr. Chen Chin-tao, Hsiung Hsi-ling, Chou Hsueh-hsi, Liang Shi-yi and Chou Tze-chi. These men have represented the foreign trained as well as the native trained economist. There is hardly a more thorough student of financial matters in the Republic than Dr. Chen Chin-tao. Hsiung Hsi-ling held the portfolio for political reasons rather than because of his fitness for the post. Chou Hsueh-hsi has had great experience in the organization of successful commercial and industrial enterprises, and is to-day one of the best equipped men in the country in native finance. Chou Tze-chi, having studied and served in official capacities abroad, has come into close touch with conditions existing outside of the Far East, and by virtue of holding responsible positions in the Provinces has been thrown into direct contact with the financial questions affecting official as well as commercial transactions. Liang Shi-yi, who has merely acted in a temporary capacity as Minister of Finance, is without dispute the acknowledged master of Chinese finance, and among those officials who have never had the opportunity of studying abroad is the most conversant with conditions existing in Europe and America. These officials in their time have been ably assisted by men of high training, such as Hsu Un-yuan, Chen Wei, Tao Teh-kwun, Wang Ching-fang and many others who have received foreign training, and who have had experience in the workings of domestic finance. But none of them has been able to accomplish a tithe of what is necessary, mainly owing to the constant changing of cabinet officers.

It would appear, however, that many Chinese have at last realised that foreign loans will in no wise be the salvation of China, and that to-day her indebtedness to Europe, America, and Japan is a curse rather than a blessing. They have realised, too, that the contracting of loans for the administration and reorganization of the Government merely adds additional burdens which blot out the temporary relief afforded by the employment of the money so derived. The weight of foreign debt upon this country has had the effect of making it submissive to the political onslaughts made upon it by other nations. This, the people, as well as China's officialdom, appreciate, and of late every effort has been made to avoid too great an expansion of this policy.

It has been brought home forcibly to competent students that in the reorganization of internal finance the Chinese should seek other means than the foreign loan to assist them. It will take hundreds of millions of dollars adequately to reform the currency, and the use of European and American money to accomplish this will but place the country under the control of the money lender. The Chinese must seek a way out of their difficulties by the proper handling of their own finances. And in this connexion the most difficult thing the Chinese have before them is the selection of capable men to carry on the work of reorganization. There are very few men in this country fitted by training and experience to undertake such an intricate task. There is no department in the Government where efficient men are more sorely needed. Up to the present China has been satisfied to keep afloat "by hook or crook," and because of past unsystematic handling of finance the nation is to-day weaker in this respect than the smallest of European countries. This the present day officials only recognise.

The Need of Foreign Experts.

The proper administration of China's finances is most urgent, and we are tempted to believe that this administration could most effectually be carried on under the direction of foreign experts engaged by, and maintained in the employ of, the Government. There would be no question of sacrifice of sovereign rights if the President were to invite experts from Europe and America to carry out financial reforms for, and on behalf of, China. The mere engagement of advisers is of no avail. They must be permitted to do what they can and in this respect there is not an adviser in Peking to-day but who is praying for something definite and useful to perform. Men of experience and integrity can be used to great advantage not only in the carrying out of reforms but in the proper education and instruction of hundreds of young Chinese to take up this most essential work. A competent high-class Englishman or American actively administering the Ministry of Finance, with the full support of the Government, would soon place the credit of this nation upon a firm footing. But competent men must be used. The undertaking of any modern movement in China is doomed to failure unless such men are in charge, and China should seek and employ those experts who will help her rise strong upon her now feeble feet. Foreign loans and the failure to carry out reforms in finance have done and will do more to infringe the sovereign rights of China than anything else, and to avert the trials and tribulations which this condition has imposed is one of the tasks with which the Government should immediately grapple. The first thing that China should consider before undertaking a new step, however, is whether there is sufficient material available in the realm of Chinese officialdom efficiently to do the requisite work. Without casting any reflection upon China we must be frank and admit that we do not feel that the full quota of experience and administrative ability is to be found here for the accomplishment of a thorough reform of native finance. The experience and ability that is lacking must, therefore, be imported from abroad and be conscientiously used by the Government. England and America to-day stand out as the very best friends of China, and they should be brought together by China in the greatest work of the time for the salvation of this country. Anglo-American co-operation would be carried on without the idea of reducing China to vassalage by means of imposing upon her systems that would increase her burdens. These two countries would work for the great good of China, and in doing so would be capable of off-setting any demands made by other nations to have participation without China's consent.

The Government must for its own sake look most seriously upon this question at a very early date. Continual delay is rapidly making of her an international stamping ground. It is by no means by an army or navy that China will be saved, but by the advancement of her commercial and industrial enterprises, and that advancement cannot be initiated and maintained without a sound financial administration. During the recent Sino-Japanese negotiations it has been extremely difficult to arouse world antagonism to the unjust demands made upon China by the

Imperial Government of Japan, simply because the average European and American have begun to feel that China cannot manage, and does not desire to manage, her own affairs. It is incumbent upon China to keep in mind the fact that Japan has made her rapid strides along the road of progress because of the employment and use of foreign experts in the building up of her institutions and the training of her citizens. The only way that China can ever hope to combat the armies and fleets of Dai Nippon is by being able efficiently to administer her own Government. This can be done, and it is high time that men were seriously being trained for this work. It should be kept in mind that the best experts in the world can be secured by China, and the price paid for their services will be but a mere pittance in comparison with the value this country will receive from their efforts if they are given scope to employ their experience and knowledge.

Proposed Land Tax Reform.

The proposals put forward by the Government for the reformation of China's land tax, and the establishment of a Land Measurement Bureau, have inspired what has been written in the above paragraphs. Here is a case in which it is essential that men who can make this work successful as a result of their own experience and training should be sought from Europe and America. The suggestion of General Tsai Ao that Sir Richard Dane, the Co-Chief Inspector of the Salt Administration, be invited to assist is most commendable, and with Sir Richard in actual charge, assisted by men of his own choice, we would feel that this great task could really be accomplished. While General Tsai Ao, as the head of the Land Measurement Bureau, could retain his nominal position, would it not be far better to have Sir Richard in actual control of the work? The Government has selected in General Tsai Ao a man of administrative ability, and one possessing a very keen sense of the importance of the undertaking entrusted to him. But he would welcome the advent of Sir Richard in active control of the work under his charge, and the foreign residents of China have been led to believe that General Tsai really intends to do something as a result of his petition to the President urging that Sir Richard be asked to assist him. There has never been an employee of the Government more loyal and advantageous to the interests of the country than Sir Richard Dane, and the President has on more than one occasion voiced his approval of the work already done by him. He has not come to China to tear down existing institutions, but to regenerate them. He does not believe that all that is in China is bad, but has set to work to utilise in an orderly manner those things that he has found good in the country.

The Land Measurement Bureau, in charge of which it is now urged that experts should be placed, should render the greatest service to China, and the proper taxation of land would mean the ultimate salvation of China. To effect this will be a most stupendous task, and of all the undertakings the Government contemplates this should be regarded as the foremost for consideration. The revenue from land taxation has in the past been the mainstay of the Government, and the collection and imposition of taxes has undoubtedly constituted the most corrupt system ever known in China. The Chinese Government has always assumed its overlordship, and while the transfer of property by individuals has been the privilege of the people, such transfers must be at least nominally sanctioned by the Government through its representatives. This holds true to-day as it did during the Manchu régime, and the previous dynasties.

Before a properly administered tax can be imposed upon the people some sort of measurement must be made, as at present the registries of the yamens all over China contain most inaccurate records. There is hardly a deed in existence that records the correct measurement of the property for which it is a title. In one instance it is remembered that a certain foreigner when purchasing five mow of land found that he had seven, and when the owner was questioned in regard to this discrepancy was told that the land was defined by metes and bounds, and that the taxes paid were upon five mow instead of seven. In this way he was able to deceive the tax gatherer, who never took the trouble to make an actual measurement of the land. In the case of prominent and influential land owners the deeds never show the exact acreage, as the position of the owner in the locality in which he is resident is generally sufficient to persuade the official that trouble would ensue if a proper measurement were insisted upon. We doubt whether there are in the registers of the various yamens to-day ten per cent of the title deeds that represent an exact accounting of acreage.

Corruption of Tax Collectors

In China in the past the Hsien, or District Magistrate, has been the official tax collector. It is the Hsien, or County Superintendent, that has kept the registers of all land transactions, and has been the one to carry out the collection and imposition of taxes. While with the coming in of the Republic the name Hsien has been changed to Hsien Chu Sz, and some of the original authority curtailed, yet he is still the person through whom all taxes are collected. A District Magistrate may be changed at any time, but the positions of yamen runners and tax collectors are inherited. A new Magistrate would not undertake to change these men, and the real control of tax collection is exercised by persons who have held their positions since childhood, having been given the office by their fathers, uncles, or relatives. There is no more corrupt gang of legalised thieves in China than the average yamen runners, and the worst pest that the Chinese people have to contend with is the tax gatherer. He is armed with the police and military authority vested in the Magistrate and is in most cases a blackmailing agent. During the Manchu regime, in each and every yamen throughout the country, there used to be found at special times a table placed to the left of the entrance of the first large hall generally used for the public trial of civil and criminal cases. Behind this table sat the tax gatherer, and as a rule those who appeared to pay their taxes were those who paid in kind, and here the products of their various farms were weighed and their values assessed. The Magistrate entrusted all of the work of tax gathering to his subordinates, throughout the county or district were sent hundreds of them to prey upon the people. These men were bitterly hated by the farmers, and with the backing that the collector received from the soldiers and the police in the pay of the Magistrate they were enabled to terrorise the whole neighborhood. When some poor farmer refused to pay the sum demanded, after having already agreed to pay from three to four times the legitimate assessment, the taxgatherer, ably assisted by the soldiers, would drag him into the township, and after being severely rebuked by the Magistrate he was cangued and beaten. In this way the tax gatherer in China made for himself the deserved reputation of a highwayman. In nearly every town in China during the Manchu regime one would see hundreds of poor fellows, his victims, walking the streets with cangues, their special crimes written on white slips of paper pasted on either side of the neck-hole of the cangue. All measurement of land came into the hands of these men, and money alone was able to restrain and control them.

While there has been no system of actual land measurement put into practice so has there been no effort to see that a proper tax is assessed upon property held. In China each mow of land is assessed according to its productiveness and the general average would approximate something over four cents a mow (a mow being one-sixth of an acre). There is a great deal of leeway permitted the tax collector in the performance of his duty of properly assessing the value of the property, and in many instances he either undervalues or overvalues the land of a taxpayer, the valuation being determined by the official or social position of the landlord. This condition was true in the Manchu times and holds true to a greater or lesser degree since the establishment of a Republican form of government. The registration of deeds as mentioned above, is no criterion, and the tax gatherer is at liberty to do as he pleases. It is a common occurrence to see the tax gatherer and landlord wrangling as to the value of land. Usually the landlord conducts his side of the case through a middleman, who is no other than his secretary and general family treasurer, bearing the title of *Chang Vong*. This individual, knowing the amount that his master will pay, often divides the resultant spoil with the tax collector. A poor farmer, however, is left entirely at the mercy of the representative of the Magistrate, and has either to pay what is demanded or go to gaol.

The amount represented on the official tax receipt presented to the taxpayer does not include the cost of collection, but merely shows the amount that the tax collector has to pay into the coffers of his superior officer. The tax receipt itself is not to be treated as showing the rapacity of the tax gatherer, even though the amount collected, as indicated by the tax receipt, allows the Central Government an annual revenue of say $150,000,000. The actual amount extracted from the landowner on account of fees for collection, meltage, exchange, etc., will more than double the above amount. The cost of collection will in the majority of instances amount to more than double the figures on the register.

The Famous Sacred Edict

In the Sacred Edict issued by Yung Ching there is contained an appeal to the people to be prompt in their remittance of the taxes, and they are warned against being tardy in their payments lest they incur the anger of the rapacious tax gatherer. This interesting appeal is given:

From of old the country was divided into districts, and a tribute paid proportioned to the produce of the land. From hence arose revenues, upon which the expense of the five li and the whole charges of government depended. These expenses a prince must receive from the people, and they are what inferiors should offer to superiors. Both in ancient and modern times this principle has been the same and cannot be changed. Again, the expenses of the salaries of magistrates that they may rule the people; of pay to the army that they may protect them; of preparing for years of scarcity that they may be fed; as all these are collected from the Empire, so they are all employed for its use. How then can it be supposed that the granaries and treasury of the sovereign are intended to injure the people that he may nourish himself? Since the establishment of our dynasty till now, the proportions of the revenue have been fixed by an universally approved statute, and all unjust items completely cancelled; not a thread or hair too much has been demanded from the people. In the days of our Sacred Father the Emperor Pious, his abounding benevolence and liberal favor fed this people upward of sixty years. Daily desirous to promote their abundance and happiness, he greatly diminished the revenue, not limiting the reduction to hundreds, thousands, myriads, lacs of taels. The mean and the remote have experienced his favor; even now it enters the muscles, and penetrates to the marrow. To exact with moderation, diminish the revenue, and confer favors on the multitude, are the virtues of a prince; to serve superiors, and to give the first place to public service and second to their own, are the duties of a people. Soldiers and people should all understand this. Become not lazy and trifling, nor prodigally throw away your property. Linger not to pay in the revenue, looking and hoping for some unusual occurrence to avoid it, nor entrust your imposts to others, lest bad men appropriate them to their own use.

Pay in at the terms, and wait not to be urged. Then with the overplus you can nourish your parents, complete the marriages of your children, satisfy your daily wants, and provide for the annual feasts and sacrifices. District officers may then sleep with ease in their public halls, and villagers will no longer be vexed in the night by calls from the taxgatherers, on neither hand will any be involved. Your wives and children will be easy and at rest, than which you have no greater joy. If unaware of the importance of the revenue to government, and that the laws must be enforced, perhaps you will positively refuse or deliberately put off the payment, when the magistrates, obliged to balance their accounts, and give in their reports at stated times, must be rigorously severe. The assessors, suffering the pain of the whip, cannot help indulging their rapacious demands on you; knocking and pecking at your doors like hungry hawks, they will devise numerous methods of getting their wants supplied. These nameless ways of spending will probably amount to more than the sum which ought to have been paid, and that sum, after all, cannot be dispensed with.

We know what benefit can accrue from this. Rather than give presents to satisfy the rapacity of policemen, how much better to clear off the past assessments. Rather than prove an obstinate race and refuse the payment of the revenue, would it not be better to keep the law? Every one, even the most stupid, knows this. Furthermore, when superiors display benevolence, inferiors should manifest justice; this belongs to the idea of their being one body. Reflect that the constant labors of the palace are to serve the people. When freshets occur, dikes must be raised to restrain them; if the demon of drought appear, prayer must be offered for rain; when the locusts come, they must be destroyed. If the calamities be averted, you reap the advantage; but if they overwhelm you, your taxes are forborne, and alms liberally expended for you. If it be thus, and the people can still suffer themselves to evade the payment of taxes and hinder the supply of government, how, I ask, can you be easy? Such conduct is like that of an undutiful son. We use these repeated admonitions, only wishing you, soldiers and people, to think of the army and the nation, and also of your persons and families. Then abroad you will have the fame of faithfulness, and at home peacefully enjoy its fruits. Officers will not trouble you, nor their clerks vex you—what joy equal to this? O soldiers and people, meditate on these things in the silent night, and let all accord with our wishes.

The manner, as described above, in which land taxation has been levied and collected has had the serious attention of several very prominent foreign authorities on Chinese finance, and their study of the methods adopted has proved not only that corruption has existed in the administration of the land tax of China, but it has been shown that the Government has neglected a veritable gold mine. In 1713, the Emperor Kanghi, in his efforts to conciliate the Chinese, declared that the tax settled in that year should be fixed and immutable for all time, and all of the tax receipts since that time have recorded the date of 1713. The Manchus in their eagerness to win the Chinese to a sense of the justice of Manchu rule lightened the burdens of the people by decree, but in the carrying out of the Imperial orders this was not done by the Government's representatives throughout the Provinces.

In a report on the land taxation in the Province of Honan, Mr. George Jamieson points out that, in the year 1905, taxable land under cultivation would amount to approximately 150,000,000 mow, and were the rate of taxation plus the amounts levied for collection imposed upon the total acreage under cultivation, this one Province would give the Central Government a revenue of something like Tls. 28,000,000, which was about the amount collected by the Imperial Treasury for the whole of China. In Mr. Jamieson's reports the following figures for Honan, during the year 1900, are given and are most interesting:

Legal land tax, return of collection for 1900	Tls. 2,380,000
Accretion at rate of 128%	3,046,400
Collectors expenses at 10%	542,640
	6,969,040
Grain tribute commuted, return of 1900	480,000
Accretion at the rate of 210%	1,008,000
Collectors expenses at 10%	148,800
	1,636,800
Total land and grain taxes	Tls 8,605,840

When the above figures, representing Tls. 8,605,840, are compared with the Tls. 3,000,000 actually turned into the Government, we can readily understand the need for improvement in the levying and collecting of taxes.

In applying the deductions made by Mr. Jamieson from his investigations in the Province of Honan to the whole of China it is instructive to note that he considers that the land taxation if properly administered, would give the Government an annual, revenue from this source alone approximately Tls. 451,000,000.

On April 15th, 1904, Sir Robert Hart, now deceased, addressed a petition to the Chinese Government upon the necessity of reforms in land taxation, and this petition is now proving of the greatest interest in that the Government, seeing the wisdom of his recommendations, have prepared this document for circulation throughout the country. In the efforts of the Government to prepare the officials and the people to receive the schemes proposed for a reorganisation of land taxation in the proper spirit, this petition of Sir Robert Hart has been most helpful. Because of the influence that these recommendations will have on the reforms contemplated the petition in its entirety is given below.

While the reports of Mr. Jamieson and the late Sir Robert Hart are necessarily of a most general character it is interesting to note that both of these gentlemen concur in the belief that approximately Tls. 400,000,000 could be derived for the Government from land taxation. In comparing the figures of the total revenue and expenditure of the year 1913 we are made to realise the importance of the Government immediately taking the matter in hand. The following figures are derived from the revised Budget for the year ending 1913:

Revenue

	Ordinary	Extraordinary	Total
Land taxes	$79,180,722	$3,222,888	$82,403,610
Salt Revenue	77,401,265	164,269	77,565,534
Customs Duty	66,970,003	1,254,280	68,224,283
Likin	32,704,806	6,054	32,710,860
Sundry Duties	37,862,160	417	37,862,577
Sundry Taxes	3,811,172	132,412	3,943,584
Government Properties	7,849,612	634,093	8,483,705

Miscellaneous		230,308	230,308
Public Loans		22,337	22,337
Total	$318,165,553	$15,782,939	$333,948,482

Expenditures

	Ordinary	Extraordinary	Total
Foreign Affairs	$3,293,115	$1,013,233	$4,306,338
Interior	39,618,149	4,263,860	43,882,009
Finance	210,345,180	181,568,614	391,913,794
Education	5,207,215	1,701,635	6,908,850
War	136,964,494	26,910,518	163,775,012
Navy	7,665,881	1,307,014	8,972,895
Justice	14,671,825	370,312	15,042,137
Agriculture & Commerce	5,083,386	959,935	6,043,321
Communications	934,877	457,843	1,392,720
Total	$423,684,122	$218,552,954	$642,237,076

The above figures representing the receipts and expenditures are well worth the attention of the Chinese people. They should be made to appreciate the necessity of not only reforming the land tax of China, but all should be made to feel the absolute necessity of placing China's finances upon a sound basis. An income of Tls. 400,000,000 annually would defray the entire expenses of the Government upon the basis of the figures of 1913.

As pointed out in the beginning of this article it is incumbent upon China to save herself through the employment of money other than that derived from foreign countries. This can be done, and the land tax is only one of many means to be employed. In the reorganisation of the Salt Gabelle China has undoubtedly recognised the benefits accruing from proper administration. The Customs service is another instance in which system has proved of value. There is no reason why the President should not receive the united support of the people in his present undertaking embracing a thorough reform of taxation.

Having considered the advantages to be had from the reform of land taxation it is interesting to note the manner in which the Government now intend to solve the problem. In an interview with General Tsai Ao, who has been placed in charge of the Land Measurement Bureau, we have been much impressed with the business-like manner in which he is proceeding to organise his work. The General fully appreciates the difficulties confronting him with the establishment of an effective instrument of the Government to deal with the reformation of land taxation. In regard to the plans for the formation of the Bureau the General said in part:

"I have been appointed by the President to undertake what must be considered one of the most difficult and yet one of the most necessary reforms in China. For years the Government has discussed the need for reforming the methods adopted by us for the measurement of land and the proper taxation of it. Because of the stupendous nature of such an undertaking it has been delayed. There is nothing that will contribute more to China's independence than stability of finance, and this is the main object in the mind of the Government for the immediate prosecution of this work.

"In China one of the greatest troubles we have in setting about our work is the inaccuracy of our statistics. Our laws have not only been far short of perfect but in the execution of these laws we have been most negligent. From time immemorial all land is supposed to recognise the over-lordship of the Government, and the people in registering their deeds have been commanded by Imperial Decrees to be careful to make an accurate measurement before registration. This, needless to say, has been rarely done, and the officials have not in the past made proper investigations into their accuracy. As a result of the disorderly manner in which property registration has been carried out we are now face to face with a mass of inaccuracies.

"I have felt that the proper measurement of land would be the only means to adjust matters, and the Government has often thought of making a complete and detailed survey. This would be not only a most expensive task, but would consume years of time. In this connection we are making every attempt to ascertain what has been done outside of China by other nations. Owing to the war in Europe we have been unable to send delegations to the Continent to carry on a study of systems employed there. In America we have selected certain Chinese to gather all the information possible upon the subject and forward it to this Bureau. We have succeeded in sending men to India, Burma, Java and the Philippines to look into the methods adopted in those countries. We are also getting all available information as regards Japanese procedure in such matters. We hope in the near future to be able to get enough valuable data to enable us to set to work methodically in building up this Bureau.

"I have established a branch of the Bureau in Peking to undertake the necessary surveys in the Metropolitan Prefecture. Strange to say, in many places there have been no records kept of any sort whatsoever. This condition of affairs will hold true in many districts throughout China. The idea of establishing this branch Bureau is in the form of an experimental station. The work is done under our immediate supervision, and all new methods considered good can be tested here. This branch will be divided into three departments (1) Survey (2) Investigation (3) Secretariat. We will make every effort to build up a small model of an efficient organisation to be used in different parts of the country where branches will be established.

"The need of foreign experience to help us has come to my attention in a very forcible manner. China never having had to undertake this work in a systematic and scientific way has no one with enough practical knowledge to plan an effective organisation. In this work I would very much desire the assistance of Sir Richard Dane, who is an expert in these matters. I have had a talk with Sir Richard which has proved most instructive, and if he can spare the time we will make the necessary arrangements to secure his valuable aid in our work.

"I fully appreciate that all of the work connected with this Bureau must be done in the approved manner, and, therefore, I am taking a good deal of time in making necessary investigations and the trying out of various schemes here so that a workable system may be evolved from our study and practice of different methods. We will have to be exceedingiy patient in this work, and it is hoped that all of those interested will be patient with us.

"It is not only our duty to make a survey, but we have the added work of checking all of the deeds representing land registered in the various yamens over the country. This, as you will see, is a very important and painstaking task. The indefinite way in which yamen registers have been kept, and the hundreds of means employed in the evasion of correct and accurate accounting for property make of the whole a most complex problem. With the assistance of the officials and people this task will not prove unsurmountable, but their active co-operation is absolutely essential to success.

"As to the manner in which taxes are to be imposed, and at what rates, we have as yet not undertaken to consider. We must first make as good a survey as is possible under the circumstances, and after a thorough reorganisation of the present records contained in the different magistracies we will be able to have a basis upon which to work.

"I have read very often the petition of Sir Robert Hart upon the necessity of a reform of land taxation. This document should act as a great stimulus to the Government and people in showing them the means of deriving a revenue of such great proportions without the additional disadvantage of increasing the burdens of the populace. I do not believe that Sir Robert Hart's scheme is in every way practicable, and because of the general nature of the recommendation it cannot be expected that this petition should take into consideration all the details necessary for the perfection of a workable proposition. The report of Sir Robert Hart as well as many others made by foreigners interested in the welfare of this nation have proved most interesting and instructive.

"I am extremely sorry that it is impossible to state anything more than the idea that we intend to prosecute the work before us in a most thorough manner, and that at present we are simply gathering data, and selecting men to formulate a scheme that will embrace the whole of our programme in China. We hope from time to time to be able to give the FAR EASTERN REVIEW reports that will show progress in this undertaking."

General Tsai is one of China's younger men of ability, and his rule in the Province of Yunnan records the successful efforts of one of many Hunanese, who have been characterised by their ability to cope with difficulties almost unsurmountable. The General has the reputation among his fellow countrymen of being very scarce in the use of words, but a man full of ideas that he has the ability and persistency to carry out. We have been very much impressed with this new head of the Land Measurement Bureau, and have every hope that he will be the means of creating a most effective organisation to deal with the most vital problem to-day confronting the Government.

The Recommendations of Sir Robert Hart.

PART ONE.

War has now broken out between Japan and Russia, in which each of the two Powers is fighting for the maintenance of its own desires, which are at variance with its opponent's policy; and this has arisen for no other reason than because China is herself fundamentally weak. How and when the war between these two Powers is to end, whether after two or three years' time or five or six years, is a question which it is difficult to answer under the present circumstances. One thing, however, may be certain; and that is, that when the war is ended, serious troubles will fall to the lot of China, if she remains as she is. If, however, we do not wish to be at the beck and call of others, but on the contrary, desire to make others listen to our wishes, there is no alternative before us but to take advantage of the opportunity now presented to us and to use our best energies to strengthen ourselves. The first step to take in order to make China powerful is that of organising and drilling our armies, and to effect this we must first set about to find the ways and means of raising funds.

Now the present revenues of China from Customs duties, salt, land, and poll taxes only amount to eighty odd million taels per annum. Out of this sum the greater half is consumed in repaying loans and meeting the war indemnity (Boxer). Hence it is incumbent on us to find ways and means of raising extra funds to meet the exigencies of the case. Of late there have been not a few persons who have been discussing the question of raising funds, and there have not been wanting suggestions as to how to procure such funds. In my humble opinion, however, the most tangible and feasible of all measures, which is comparatively speaking at hand, is that of reorganising the land and poll taxes. I find upon examination that the dimensions of China, not counting Chinese Turkestan, Mongolia, or the three Manchurian provinces, are 4,000 li long and as many in breadth; in other words, China Proper contains an area of no less than 16,000,000 square li. To each square li there should be 540 mow of land. Taking it, say, at 500 mow to the square li, then there should be 8,000,000,000 mow in an area of 16,000,000 square li. If then, a land tax of 200 cash be assessed on one mow, with a fixed rate of exchange of 2,000 cash to the tael of silver, then from every ten mow of land there can be collected a tax of one tael of silver. Eight thousand million mow of land would therefore yield 800,000,000 taels in taxes. We cannot, however, expect to collect regularly each year the above sum of 800,000,000 taels, owing to the fact that there are fat and lean years, while some land may be rich and other poor. Furthermore, account must be taken of mountains and streams.

I recall a remark made at one time during his lifetime by the late Marquis Li Hung Chang in regard to the taxable portions of the Empire. His late Excellency declared that of the land in the eighteen provinces of China Proper there are no less than two-thirds which can be made to pay taxes. Taking then the taxable area as one-half, we can yet practically collect 400,000,000 taels. For every day that the Government owns this area of land, so long does the above noted amount lie ready to the hand for collection. Therefore this manner of raising funds is, comparatively speaking, much more feasible and practical, and capable of more steady and lasting advantages, than any other suggestions for raising money yet brought forward. If the Government will put into practice this manner of raising funds, it will have at hand a bountiful income for the accomplishment of all national measures of importance, and there need be no fear of shortness of funds, while the inhabitants of the Empire will not be made to suffer the least iota of oppression and trouble. Should my recommendation as presented above meet the favourable consent of the Imperial Government, I shall have the honour of presenting for their acceptance another paper setting forth the manner as to how to accomplish the ends in view.

PART TWO.

With regard to the large amount of 400,000,000 taels revenue which was estimated in the foregoing recommendation as collectable from the land and poll taxes (payable in rice or money) of the Empire, it is evident that the question is in need of energetic reorganisation.

The manner of collecting the above taxes hitherto in vogue has been of the greatest injury to the people, who have to pay disproportionately large sums, while only a small portion of these amounts actually goes to the Government. As time passes the people suffer more and more, while the frauds practised upon them by the tax-collectors increase in number each day. If, however, we intend to use our best energies to reorganise the system of raising funds from these land taxes, it stands to reason that the practice of collecting now in vogue must unhesitatingly be abolished. Taking into consideration the fact that this matter is one in which the inhabitants of China are to pay taxes to the Chinese Government, it is evident that the Chinese officials are better acquainted with the actual state of things than an outsider would be, and can recommend remedies superior to those that may be suggested by one of the latter. It is, however, the opinion, after due consideration, of the Inspector-General of Customs, presenting this paper, that if the following suggestions are put into practice, there need be no doubts as to the ultimate accomplishment of the ends in view. I am, moreover, of the opinion that the more the details are entered into as to the manner of doing things, so much the slower will be the inauguration of the reorganisation in view. Hence it would be far better to take up the most important points and start the matter right away, and then go along step by step, allowing things to unfold themselves as we proceed, instead of going into long and tedious details which will give much trouble and take up important time.

I will therefore present an outline of my scheme under the following numbers:—

(1) Should an Imperial decree be issued to the high authorities of the various provinces commanding them to begin the reorganisation of the land taxes together, the chances will be that each provincial official will inaugurate an independent scheme of his own and so cause considerable difference of opinion, thereby preventing that unanimity of action so much to be desired in bringing about solid results. It is therefore suggested that the scheme in view be started in a certain district (hsien) belonging to a certain prefecture (fu) in a certain province (sheng). After the said hsien shall have accomplished the object of the scheme in question it shall be taken up in the same way by its neighbouring hsien or district and so on gradually to the next district, and thus in natural sequence gradually until the whole province is operating under the new system of tax collection.

(2) As soon as a certain district has been selected to start the new system, it is recommended that ten able and intelligent expectant officials of the province, in which is situated the hsien in question, be chosen and sent to join the district magistrate, or chih-hsien concerned, inaugurating and putting into operation the scheme. With the knowledge and experience thus obtained by these ten expectant officials, they may then be used to start the same in other districts.

(3) The chih-hsien of the selected district shall begin by dividing his hsien into four principal portions, namely, Northern, Southern, Eastern, and Western portions. He will then issue proclamations clearly to inform the people in his jurisdiction that those who own land are each required to draw a statement within one month's time, setting forth how many mow of land each possesses, where situated, and the exact boundaries. Attached to this statement must be a plan or plans made of the property or properties, all of which the said owner of land will be required to present personally at the Yamen of the hsien concerned. Upon receipt of said statement and plan or plans, the chih-hsien shall at once enter the details therein contained in a new book to be provided by him for the purpose.

(4) In the proclamations to be issued by the said chih-hsien there shall be inserted a warning to the people in the following words:—

"I, the district magistrate, will not at present depute any one to survey and measure your lands, but will leave it to each landowner to make his own declaration as to how much land he owns. If, however, it be subsequently discovered that any one had failed to report the exact amount of his land, and after an official survey of the district it be found out that a person has reported to the magistrate less land than he actually possesses, the delinquent will be fined."

(5) After a landowner has registered his property in the district Magistrate's Yamen, the said magistrate shall issue to him a document (Yut'ieh) or order, with a registered number, commanding the said landowner to appear personally at the said Yamen at the beginning of the 10th moon of each year, and there, according to the number of mow set down in the said document or order, pay land taxes thereon at the rate of two hundred copper cash per mow. Each order shall have a corresponding "butt" in a book prepared for the purpose by the magistrate for the purpose of subsequent identification and tally whenever necessary.

(6) The foregoing work, such as the issuing of proclamations, presentation of landowners' declaration of property owned by them, entering same into the new records, and the issuance of the order—"Yut'ieh"—must be accomplished by the end of three months. The ten expectant officials must every day personally attend at the Yamen and join the chih-hsien in working out the scheme, and being cognisant of everything passing beneath their eyes will be able to understand matters clearly. They will then be sent to the other hsiens of the prefecture in question, and there show the other hsiens how to start the scheme, following the methods inaugurated in the first-named hsien, three months being granted for the accomplishment of the said scheme. This having been done these expectant officials, being in the meantime joined each by ten other expectant officials, shall then proceed to the prefectures of the province in question, and in this manner by the end of the second term of three months the whole prefecture of the said province will have started the new system of land taxes.

(7) After the end of the second term the said one hundred expectant officials who have been engaged in acquiring a knowledge of how to work the new system should be sent to assist the chih-hsiens of the other prefectures of the provinces concerned in inaugurating the new system, so that by the end of the third term of three months the new system will have been put into practice in the whole province in question.

(8) At the end of the three months after the new system has been inaugurated in a district the chih-hsien of the same shall be required to make a detailed report to his prefect as to how many mow of land there are in the four principal divisions of his hsien, and how much money at two hundred copper cash per mow can be collected therefrom. The prefect

will then send a report to the high authorities of his province, who will in turn report the same to the Board of Revenue at Peking, to place on record for future reference.

(9) Should a landowner sell any portion of his registered property to another, the vendor, in company with the purchaser, shall take with them to the Yamen the order (Yut'ieh) originally issued by the chih-hsien, and report the transaction in question. This will then be recorded in the said order, and the same must also be set down in the land records of the Yamen.

(10) At the beginning of the 10th moon each landowner, taking with him his "Yut'ieh" (order), shall either proceed in person to the chih-hsien's Yamen to pay his taxes to the revenue officer of the said Yamen in accordance with the amount noted down in his order, or shall pay the same to any bank to which the landowner shall be directed, after payment of which a receipt shall be given him. The chih-hsien shall then enter the amounts received in his accounts for the period under consideration, and after having collected all the dues shall be required to send the money collected to the prefect of his prefecture, who shall in turn transmit the taxes to the Provisional Treasurer to be deposited in the provincial treasury. The Viceroy or Governor concerned will then make the usual report to the Board of Revenue. If a registered landowner fail to pay his taxes when the time for doing so has arrived and passed the delinquent shall be duly fined.

(11) No Yamen scribe or runner shall be permitted to ask for money from a landowner, whether the latter be engaged in making his declaration to the chih-hsien or when he is paying his taxes; nor shall the said landowner be allowed to give presents of his own accord. Collectors of taxes shall not be allowed to demand more than two hundred copper cash per mow, and in paying in taxes to the treasury neither delay nor any deduction in the amount of taxes payable shall be permitted.

(12) After the introduction of the new system into a province in the space of one year, the one hundred expectant officials who have learned how to inaugurate the system shall be sent to the five provinces nearest said province to introduce the same, in accordance with the manner inaugurated in their own province, into the various hsiens of the said five provinces, and the high authorities of the said provinces shall also copy exactly the practice of appointing a number of expectant officials to accompany the visiting officials, and so learn from the latter the new system. In two years' time six provinces will have thus started to work the new system.

(13) At the beginning of the third year the expectant officials of the said six provinces should be sent to the other twelve provinces (of China Proper) to introduce the new system in the same manner noted above, and thus at the end of the third year of the starting of the new system the whole of the eighteen provinces of the Empire will have inaugurated it.

(14) The above is an outline of how the new system shall be put into execution. Of course each place, or each matter, requires certain details. The best way for it would be to wait until a certain matter has been started, and then to fit in the necessary details needed to govern same. The main object in view is that the less regulations there are the better it will be for the introduction of a new scheme. This is only an outline of how to work the scheme; if it should turn out that certain portions need taking out or require some change the best way would be to wait until the end of the third year, when all the provinces have inaugurated the new system, and then consult as to what should be added to or what measures ought to be discarded as harmful, in order that only the best manner of doing things should go finally into practice.

(15) This scheme, of course, should be confided to the various Viceroys, Governors, Provincial Treasurers, Judges and Taotais to work out honestly and diligently. Especially will it be necessary for the Ministers of the Board of Revenue to send, off and on, officials from that Board to go to the provinces and select at will the records of any districts or hsiens they may visit, and see whether the same system is in operation as in other provinces or whether the records, accounts and receipts are practically similar to others, and mean what they show. After the period of three years we may certainly expect something tangible in the shape of the taxes received under the new system, and the total amount received therefrom may be anticipated as not only as much as 400 million taels, but something more than that sum.

PART THREE.

The Imperial Government having obtained this source of revenue, namely, four hundred million taels, those at the head of the Government will doubtless have their own ideas as to how the above huge sum should be disbursed. If, however, I am placed in control of this revenue, I beg to suggest the following manner of using the money.

(1) If we wish to preserve the integrity of the Empire and seek to benefit the people and guard against harm, we are bound to pay special attention to the reorganisation and improvement of our armies. In organising the troops of China, speaking in general terms, four large armies ought to suffice the country. This is to say, one army should be stationed at Chihli province, one in the Liang-Kiang (Lower Yangtsze), one in the Hukuang (Middle Yangtsze), and one in the two Kwang provinces (Canton). Each army should be composed of 50,000 regular troops, whose pay and rations will cost 5,000,000 taels per annum. The officers of each army should consist of 1,000 officers of the sixth grade, whose pay shall be 500,000 taels per annum; 500 officers of the fifth grade, with a total annual pay of 500,000 taels; 250 of the fourth grade, with a total annual pay of 500,000 taels; 50 officers of the third grade, with annual pay amounting to 150,000 taels; 25 officers of the second grade, whose total yearly pay shall be 100,000 taels; and ten officers of the first grade whose total annual salaries shall be 100,000 taels; making a grand annual expenditure per army corps of 6,850,000 taels. Four active army corps will therefore require an annual outlay in pay and rations of 27,400,000 taels. In addition to the above, there should be four military academies, each academy to cost 500,000 taels, or 2,000,000 taels for the four institutions per annum. An annual outlay in ammunition and arms of 3,000,000 taels will also be necessary, thus making a total expenditure in regard to the regular troops of the Empire of 32,400,000 taels per annum. But regular troops of the active armies of the Empire must have a certain limit or term of service for each man, after the expiry of which term he goes into the first reserve for a certain limit of time, after which again he goes into the second reserve. The annual expenditure of the men of the first and second reserves may be computed at one-half of the amount expended on the regular active troops; that is to say, at 15,000,000 taels. In this manner, after ten years' time, we shall have 500,000 men for each category, namely, the active, the first and the second reserves, at an annual expenditure of 47,000,000 taels, or roughly, the sum of 50,000,000 taels.

(2) There should be no delay in organising the above-named troops; but what is of more importance is, that we should be prepared to organise a fleet also. With a fleet, if there should be war our battles with an enemy will be fought away from the country; whereas, if we have no fleet, any fighting we may have will have to be done on our own territory. We should have three fleets, one in the Peiyang (North China Seas), one in the Nanyang (Yangtsze delta waters), and a third in waters midway between the Peiyang and Nanyang. Each fleet should be composed of ten large and ten smaller warships, and ten first class torpedo-boats and 50 smaller ones. Each fleet should be manned by a total number of 10,500 men, whose annual pay should be 1,050,000 taels. Each fleet shall have 400 officers, whose annual pay will be 600,000 taels, or a total expenditure of 1,650,000 taels a year for each fleet. Three fleets will, therefore, require 4,950,000 taels per annum The amount to be expended in the construction of the 240 vessels of three fleets should amount to 200,000,000 taels, this expenditure to be spread over a number of years, so that each year one-tenth of the above vessels shall be built at an expenditure of 20,000,000 taels a year. This shall continue year after year without cessation in order to build up the navy. There should also be three naval academies at 500,000 taels for each per year, or a total of 1,500,000 taels for the three. The above-noted naval expenditure will, therefore, amount to 26,450,000 taels per annum, or, roughly, 30,000,000 taels.

(3) In addition to the army and navy establishments, there should be four arsenals for the manufacture of arms and ammunition, the expenditure for each arsenal to be about 2,500,000 taels or 10,000,000 taels for the four.

(4) With the chances afforded by the possession of such a large revenue to the State, the opportunity should be taken to reorganise the salaries of the civil officials of the Empire, so that each may have a settled sum of money sufficient for his personal expenses and leaving a small margin. In this manner an official will be under no necessity of extorting money from the people under his jurisdiction. The Government, of course know the exact number of civil officials in the Empire. I will, therefore only give an outline of it as follows:—

Let us say there are 20,000 officials of the grade of police magistrate (Hsunchien). These will need 3,000 taels each per annum, or a total of 60,000,000 taels for the whole; about 2,000 district magistrates (Chih-hsien) at ten thousand taels each per annum, or a total of 20,000,000 taels; about 100 prefects (Chihfu) at 20,000 taels per annum, or a total of 2,000,000 taels; about 100 Intendants of Circuit (Taotai) at 30,000 taels per annum, or a total of 3,000,000 taels: 10 Salt Commissioners (Yanyunsze) at 35,000 taels per annum, or a total of 350,000 taels; 20 Provincial Judges (Neithai) at 40,000 taels per annum, or a total of 800,000 taels; 20 Provincial Treasurers (Feng-tai) at 50,000 taels per annum, or a total of 1,000,000 taels; 20 Governors (Hsunfu) at 60,000 taels per annum, or 1,200,000 taels; and, say 10 Viceroys, at 70,000 taels per year, or a total of 700,000 taels. There are about 2,500 superior Yamens, or Government offices, in the country for the up-keep of which it will require each about 10,000 taels per annum, or a total of 25,000,000 taels; and about 20,000 smaller Yamens, for the up-keep of which will require each about 1,000 taels per annum, or a total of 20,000,000 taels. The officials, high and low, connected with the boards, ministries, and Yamens in the capital will require a total salary of 12,000,000 taels a year while the ten Tartar Generals and Military Governors in the provinces will each require 1,000,000 taels a year for themselves and their Bannermen garrisons, or a total of 10,000,000 taels. Calculating upon the above basis it will be seen, therefore, that the amounts to be paid yearly for salaries of officials in Peking and the provinces will require not less than 158,000,000 taels, or, roughly 160,000,000 taels per annum.

(5) Now that the various provinces are engaged in establishing modern schools with the important object of educating men for the service of their country, there should be some reliable sources of revenue to support said schools, so that there may be no danger of breaking down half way through want of funds. Out of the revenues of the new-land tax scheme there should, therefore, be set aside an annual sum of 10,000,000 taels for said schools.

(6) The postal system in all countries has for its object the convenience of the people at large. China having also started the system, should lay aside a certain set amount for the support of said system. This branch of the Government at the commencement is always a long one—the expenses exceeding the income—but in due course of time when the system shall, after several years, be made to run smoothly everywhere and experience has been gained, the income will certainly be more than sufficient to meet expenditure, which will require about 1,000,000 taels per annum.

(7) Telegraphs are of the utmost importance to the machinery of State, while at the same time they benefit greatly merchants and the masses.

The circumstances attending the establishment of telegraphs in a country are similar to what is usually experienced with reference to the postal department; that is to say, in the beginning the expenditure on telegraphs always exceeds the income accruing therefrom; but, in course of time, all will be changed, and the income will always exceed the expenditure. At present this department requires an annual expenditure of 5,000,000 taels.

(8) In foreign countries in the west it is customary to take out of the revenues of the countries in question a certain sum for the up-keep of the Royal Palaces. China may therefore well follow this example and lay aside from the total revenue of the Empire a sum, say, of 10,000,000 taels for the purpose.

(9) In a word, therefore, in accordance with the foregoing, we have an estimated annual expenditure in round numbers under the following headings:—

(a) Army.. ...	Tls. 50,000,000	(b) Navy... ...	Tls. 30,000,000
(c) Arsenals ...	10,000,000	(d) Salaries of Civil Officials..	160,000,000
(e) Modern Schools	Tls. 10,000,000	(f) Postal Deprt.	1,000,000
(g) Telegraphs	5,000,000	(h) Palace Expenses	10,000,000

An aggregate expenditure of 276,000,000 taels. Deducting the above from the estimated land-taxes of 400,000,000 taels, there is still a margin of 124,000,000 taels. This amount may be placed in reserve to meet emergencies, or it may be used at various times upon important schemes which shall be beneficial to the Empire and the masses. It would be folly to squander the excess named in the foregoing upon frivolous matters or for useless pleasures. Besides the excess accruing from the land-taxes, there are the revenues to be derived from the Customs and salt-tax. These taxes give, roughly, an annual revenue of some 40,000,000 or 50,000,000 taels, which will easily suffice to pay off foreign loans and the war indemnity. After the liquidation of the above liabilities of the Empire, it would be a good plan to abolish both the Customs dues as well as the salt-tax, in order to give freedom of trade to the people which, while enriching them, will procure a reserve of wealth to the masses, and consequently to the enrichment of the whole Empire.

PART FOUR

The foregoing suggestions were divided into three parts. Part One dealt with the question of raising funds through the land and poll-taxes; the estimates being on the basis of the superficial area of the country, from which the number of mow of land was calculated, and then the amount obtainable from taxation of said land. Calculations were made on a substantial basis which could be easily put to proof, and with regard to which there could be no room for doubt. Part Two suggested the manner of procedure in inaugurating said taxation. The methods of taxing suggested by others are many, yet that proposed by the author of these recommendations (Sir Robert Hart) is in his opinion practically substantial and feasible. Part Three showed that since the country has at command such an immense revenue, the money should be used to inaugurate and put into operation a number of schemes of vital importance and indispensable to the Empire. Plenty of margin was allowed over and above the estimated disbursements, so that none concerned would find themselves burdened by the conditions of the case. Although the items of disbursement are many, in course of time there will surely be an excess of revenues available.

The proposed manner of reorganisation of the land-taxes not only will not harass the people, but upon averaging the matter the amount of tax demanded for each mow of land will be less than that hitherto paid by land-owners. Moreover by land-owners being required to go personally to the Yamen of their own chih-hsiens, or district magistrates, to pay their taxes, they will be exempted from the extortions and impositions of Yamen underlings going into the country villages to call for and hasten the payment of taxes.

With regard to the fact that civil officials of the Empire will get large salaries abundantly sufficient for their own wants and the support of their families there will be no harassing thoughts regarding family necessities, and all private anxieties will be removed. These officials may therefore be expected to do their duties with equable mind and free from all distractions. Funds for national measures that may be needed for the Empire may thus be provided for from the land revenues, and even then there will be an ample margin left.

The war in the Eastern portions of our Empire has already begun, and no one dare venture at the present moment to foretell which shall be the winner and which the defeated Power, or how many months, or even how many years, it will last. One thing we know about this, however, is, that the battlefields are to be within the territories of China, while our people inhabiting regions in the neighbourhood are surely in danger of suffering all kinds of the severest hardships and oppressions. Finally, when the war comes to an end, the treaty of peace entered upon by the belligerents will certainly contain clauses affecting the Eastern and Western portions of the Chinese Empire. It therefore behooves China to seize the opportunity lying before her now to use her utmost strength and best efforts to start properly various measures of vital importance to the country, so that when the time arrives when it shall be incumbent upon the Imperial Government to make a declaration, China shall be in a proper position to do so, and compel also others to listen to her wishes without any opposition. In a word, the present is the time to inaugurate measures for benefiting the country and for guarding against any contingency of harm. In urging a reasonable policy we must all the more advocate strength; desiring strength we must strive to make ourselves powerful, and to make ourselves powerful we must naturally seek for ways and means whereby we may obtain the necessary funds. So far, all sources of revenue we have in view do not show a sufficiency coupled with a margin, except it be the sole one of reorganising the land-taxes, which when collected will be sufficient for all purposes.

Some one may argue that this proposition being one that has never been tried before, it is therefore what is nowadays styled "A New Scheme." But for all that, its being a new scheme should not render it liable to opposition as one that ought not, for that reason, to be permitted to be put into effect. A scheme must be shown to be feasible and so put into effect or shelved as the case may be. The fact of its being a new or old scheme should not be allowed to militate against it, or *vice versa*.

Again, on the other hand, it may be argued that one of the injunctions placed by an Imperial ancestor upon his descendants occupying the Throne, strictly forbids in perpetuity any additions being made to the land-taxes of the Empire, and therefore it would be presumption to propose such a measure. This kind of argument is, however, quite wrong. The plan proposed is not to add to the land tax, but only that there should be one uniform taxation throughout the whole Empire.

A proposition like the present earnestly seeks a tangible and practical solution of the question (of finance) and the reorganisation suggested is one that is needed to meet the exigencies of the times. Moreover the method of reorganisation proposed is both simple and easy to put into effect. It only requires diligence and honesty of purpose in undertaking this duty, in which case the people of the Empire will be certain to fall in with the plan with glad and willing hearts, while officials naturally will use their best efforts to put the scheme through.

When the Imperial consideration has been given, it will be necessary to go into the matter with care and detail, in order to decide whether to inaugurate the scheme or to abandon it. The moment, however, it has been decided to start it, and due notice has been given to those in Peking as well as in the provinces, then no one shall be allowed to obstruct the scheme by trying to persuade their Majesties to rescind their consent, no matter who the person may be who shall attempt to do so. Even should such an attempt be made, there is no reason why the person's word should be listened to by their Majesties. With reference to suggestions, that may be made by any one, it is only needful to consider whether such suggestions meet the exigencies of the crisis; it is unnecessary to discuss their merits on the basis of who the person may be who has made the suggestions in question.

With regard to this reorganisation of the land tax it will be necessary first to report upon the number of square li of a place, next the number of mow of land therein, and then the tax levied. If the report is substantially correct, then will be the time to consider how to reorganise the old system, to see whether the new plan will be lighter and easier of manipulation and also that it will not cause trouble and inconvenience to the people.

If the new plan meets the above requirements, then the amount of tax to be levied shall be considered. After all this has been done, and due examination made as to whether the new tax shall be sufficient for the purposes in view, and it has been found to be practical and feasible, then will be the time to decide about putting the new scheme into effect. My opinion is that if the foregoing scheme can be put into execution, the revenues of China will certainly increase from year to year, while it will follow that the power and strength of China will be greater and greater year after year. I, indeed, stand looking eagerly forward to the accomplishment of all these things.

CHINA'S MANUFACTURE OF GLASS.

According to a Japanese investigator there are twenty glass factories in the Yangtze valley. Eliminating three factories under Chinese management all the factories are employing Japanese workmen. Whose first appearance dates back only to 1910 when the Fujia firm established a factory in Shanghai to manufacture lamp chimnies. But the factory soon closed on account of poor management. Workmen thus thrown out of employment found capitalists and established themselves as glass manufacturers in several places. As the goods thus manufactured in China are much cheaper than imports from Japan, the industry, has developed until the amount of the articles turned out a day during fall and winter by the various factories in the Yangtze valley is said to reach over 7,000 dozens. In Shanghai there are seven factories for the manufacture of lamp chimnies of which three are under the management of the Chinese and four of the Japanese.

The wage of Japanese workmen in China is from 50 to 70 per cent. higher than that in Japan ranging between 1 *yen* 80 *sen* to 1 *yen* 90 *sen* a day. Waste glass can be obtained in China, but owing, to an increase of the factories in Shanghai, the price has of late greatly advanced, being quoted at 18 *yen* per 100 *kin* ($9 gold per 133⅓ pounds). About 15 per cent. of the amount is of practically no use, and the real value is something like 20 *yen*. Good materials (sand and stones) have not so far been discovered in China, so that the materials for the glass of superior quality are imported from Japan.

The procedure for the import of nitre through the Chinese customs house is much complicated. In consequence, glass factories not having a sufficient knowledge of commerce are mostly using the Chinese nitre. The Chinese nitre in the Shanghai market is not of good quality, and its price is unduly high, being quoted at 33 *yen* per 16 *kan*. In Japan nitre of 25 *kan* is only 13 *yen*. One furnace requires about 12 *kin* (16 pounds) of nitre a day.

ENGINEERING, FINANCIAL AND INDUSTRIAL NEWS

COMMERCE AND INDUSTRY

World's Rice Crop.—The second general memorandum of the rice crop in India for the current season shows a total area of 75 million acres under the crop, being only 100,000 acres short of last year. Conditions in Bengal, Behar and Orissa, Assam, and the United Provinces have not been favourable since September, and the outturn of winter rice in consequence is somewhat shorter than these figures indicate, especially in Behar and Orissa, where it is estimated at only 75 per cent. of the normal. As regards extra Indian areas the information is that in Egypt the conditions are favourable, in Japan the crop is 12 per cent. above normal, while in Korea, Italy and United States slight variations compared with last year are expected.

Cotton in Burma.—The Commissioner of Settlements and Land Records estimates that 279,377 acres were under cotton in Burma, as compared with 282,252 acres in the crop year ended June 30, 1914. The total yield of the Province is estimated at 51,095 bales of 400 pounds each, as against 47,881 bales in the crop year ended June 30, 1914.

Burma's Peanut Crop.—It is estimated that 254,766 acres in Burma are now under peanuts, an increase of 10,000 acres over the crop year ended June 30, 1914. The gross outturn of the Province is estimated at 104,000 tons (ton of 2,240 pounds), as compared with 93,700 tons during crop year ended June 30, 1914. The estimated outturn of 104,000 tons is the highest on record, and represents 15 per cent. of the total area under peanuts in British India.

Sheep Breeding in Japan.—Imports of wool into Japan now amount to about $7,000,000 a year, with a tendency to increase for woollen textiles. Experiments in sheep breeding are being made at the farm of Marquis Matsukata and in Chiba prefecture, while the Department of Agriculture and Commerce is encouraging some villagers in the island of Hokkaido to breed sheep, and has decided to appropriate about $15,000 for sheep breeding in 1915. It may be impossible to make sheep breeding as prosperous in Japan as in foreign countries, on account of geographical and other conditions, but if encouraged and carried on as a subsidiary business of farmers, some of the domestic demand may be met. In view of this the Department seems very eager to encourage stock farming.

Osaka's Industries:—*Celluloid.*—Effective in diminishing the import as has been the establishment of the two celluloid factories in the neighbourhood of Osaka, both concerns appear to be far from making a financial success of the undertaking, and had again to chronicle losses on the year's working in 1913. For this, the necessity of importing such accessories as the tissue paper, acids and spirits is partly responsible.

Zinc refining.—The output of the Amagasaki works is reported to be 250 tons monthly; an increase to over 350 tons is spoken of.

Galvanised sheeting.—The Osaka works are reported to be turning out some 250 tons of galvanised sheets per month.

Metallic filament lamps.—The manufacture of tungsten lamps with imported filament has proved most profitable. The total output in Japan is from 5,000,000 to 6,000,000 lamps a year, of which the greater number are made in Osaka.

Saw mill.—A modern saw mill was erected in Osaka in 1913 at a cost of Y15,000., with an estimated output of 500,000 cubic feet of Hokkaido oak. The export of this latter has been growing of late, and it is expected that if this present undertaking is a success it will be followed by others of a similar nature. The machinery installed is American.

Hydro-electric power.—The completion of the works of the Ujigawa Hydro-Electric Power Company in June, 1913, came at a time most fortunate for the company, coinciding as it did with a period when the high price of coal had become a matter of concern to all industries using steam-power. The Company supplies power to both Osaka and Kyoto, the powerhouse being situated at Uji (about 9 miles from Kyoto and 22 miles from Osaka), from which point the three-phase, 60-cycle, alternating current is transmitted by aerial lines to Osaka at a pressure of 55,000 volts and to Kyoto at 11,000 volts. The equipment consists of six generators (one spare) of 4,500 kilowatts. Under present conditions during the day the load consists of motors entirely. At night, however, the lighting load is far in excess of the motor load, the principal customers of the company being the two electric light companies of Osaka and Kyoto respectively. Thus the day time output is 100,000 kilowatt-hours (maximum load 8,150 kilowatts,) whereas the night output is 290,000 kilowatt-hours (maximum load 23,000 kilowatts). A contract has been made with the Osaka municipality for the supply of power for the tram service from January, 1915, which will account for 4,000 kilowatts.

Though there are one or two small water-power plants operating in the Osaka district, this is the first undertaking on a large scale, and its working is likely to be followed with considerable interest. The construction works are reported to have cost 13,227,000 yen, which is considerably in excess of the original estimate, while the capital sunk in the undertaking amounts to 18,000,000 yen (say 1,800,000*l.*). The total steam-power used in Osaka proper may be placed at 100,000 horse-power, though if the whole industrial district be included the figure would be much higher. In 1913 the average daily consumption of coal was in the neighbourhood of 4,000 tons. The company's tariff ranges from 4½ sen (1.1*d*) to 3 sen (¾*d.*) per killowatt-hour, though contract prices appear to be considerably lower.

Smoke abatement.—The police authorities have under consideration the issue of regulations to prohibit the emission from factory chimneys of clouds of black smoke.

Electric and light railways.—The growth of electric railway systems continues. There are now (April, 1915) within a radius of 50 miles of Osaka close to 250 miles of double track in operation, and 80 miles more under construction or proposed in the near future. Several inclined cable tramways are on the tapis. The growth of light railways has been slower, the mileage of single track being under 50 miles. Another 50 miles are under construction. Numerous plans are projected, but hitherto have been held up by the difficulty of finding capital. On the whole it appears probable that but for the tightness of the money market a number of small systems would come into existence. A great part of the district lying south of a line drawn from Osaka to Nagoya is in a backward state owing to the lack of means of communication.

Motor cars and lorries.—There are at present 25 motor cars registered in Osaka. Though the narrowness of the streets militates against any extensive use of motor cars, it appears probable the demand will grow, if slowly. The amount of merchandise daily transported by drays and hand-carts in all parts of the city suggests a possible opening for motor lorries of a light type. The municipality have in use three motor-tower wagons for repairs of overhead wires, while the railway authorities have a motor van for parcels delivery. The results appear thoroughly satisfactory. Whether for pleasure or for practical purposes, a low price is in most cases an all-important consideration.

Public works. Harbour and waterways.—(1) A sum of 62,000 yen is to be expended on the construction of a new landing pier of 30 feet at Sakurajima. This is the point at which raw cotton is discharged, and as mentioned elsewhere, the handling of such goods at Osaka port is at present hindered by inadequate facilities, the existing pier being too small and accommodation in the goods-sheds insufficient. Additional sheds are to be built in 1915. (2) The long proposed plan of improving communication between the harbour and the city of Osaka by making a practicable waterway of the River Shirinashigawa is at last to be taken in hand at a cost, spread over three years, of 1,250,000 yen. This will afford an alternative means of access from the harbour to the city and relieve the congestion of the Ajikawa, at present the only direct waterway. The work is to be undertaken by the prefectural government.

There is also a proposal to cut a canal at right angles to these two rivers and connecting with a third, whose outlet lies outside the harbour enclosure. This work would be done by the municipality.

City hall.—A new city hall is in process of construction at a cost of 100,000*l.*, contributed by an Osaka citizen. The building, which is to be in foreign style, will cover an area of 2,500 square yards, and is to be completed by 1917.

Municipal trams.—The municipality now operate 27 double miles of tram. Extensions in 1914 provided for some 7 more at a cost of 5,000,000 yen.

Osaka Shosen Kaisha.—The Osaka Shosen Kaisha (Osaka Mercantile Steamship Company), which is second in importance in Japan to the Nippon Yusen Kaisha (Japan Mail Steamship Company) is increasing its capital from 16,500,000 yen (say 1,700,000*l.*) to 24,750,000 yen (2,500,000*l.*). Of the increase, however, only one-quarter is to be called up at present. The company, which until recently was entirely engaged in local services, has within recent years run lines of cargo steamers to Tacoma and to Bombay with considerable success, and is credited with the design of opening a line to Europe should a favourable opportunity occur.

Osaka ironworks.—The Osaka ironworks and shipbuilding yards, originally founded by a British subject, has been formed into a Japanese company with a capital of 6,000,000 yen. It owns at present shipbuilding yards capable of building vessels up to 4,000 tons, six dry docks, the largest of which is a little over 400 feet, a pipe foundry and accessory works for the making of boilers, &c. A new dock in process of construction will be 520 feet long, while it is proposed to extend the shipbuilding yards to provide for 10 building slips, the largest of which would be 480 feet long and 60 feet broad.

Population.—The total population of Osaka at the end of 1913, according to returns furnished by the municipality, was 1,388,909, The number of foreign residents, other than Chinese, 1,446.

Paper Pulp from Karafuto:—Paper-mill men are being heartily congratulated on the success achieved by the Karafuto Manure Company lately in starting pulp manufacture in the Northern colony, for Japanese paper mills, which have so far drawn almost all of their raw materials from foreign countries, particularly Austria and Norway, are thus placed in a partly independent position in respect to the supply of raw material.

The *Japan Times* says: "The company started the manufacture of pulp some time ago as an experiment while at the same time installing the plant. According to a report from Karafuto the plant having been fully installed, the actual operations were commenced yesterday. In every way the new enterprise is said to be a success." The *Japan Chronicle* referring to the Karafuto pulp enterprise says: "A steadying element may be found in the fact that the Mitsui firm has just started work in a new factory at Odomari, Karafuto. The trials of the new machinery have been carried out successfully, and the annual output henceforth is estimated at 1,000 tons or more. The check to imports through the war gives the new concern an encouraging start."

Motorcar Service Between Kalgan and Dolonor:—A Kalgan telegram to the "Sinwanpao" reports that the company, which is to run a motor car service between Kalgan and Dolonor, is buying land so as to have good roads for the service. The Lieutenant General of Chaher has arranged the matter with the Department concerned in Peking and there is no obstruction from the local people.

Sugar Factories in China:—The "China Times" reports: "The Department of Agriculture and Commerce has decided to effect measures to consolidate the sugar industries in China by (1) deciding the area to get materials, (2) not allowing more than two factories within one area, (3) the sugar refineries to receive government inspection, (4) those who are already engaged in the business should get licenses for the same within the next year."

Mongolian Industrial Co:—The Mongolian Industrial Co., which has had a very unlucky career ever since its establishment five years ago, has been at length dissolved. The company had a fairly auspicious start, and the total shares subscribed reached Tls. 520,000. The revolutionary disturbances, the Mongolian campaigns, etc., have put the Company in an exceedingly embarrassing situation. At the time of dissolution the Company was short by nearly Tls 20,000.

SHIPPING

New Chino-American Steamship Co.—According to a cablegram from the American minister at Peking, a corporation, distinct from the Government, to operate a mercantile marine company between China, American Gulf ports, and New York, is about to be consummated by responsible and capable Chinese financiers. The company is to be a joint-stock company, American and Chinese capital sharing equally. The dividends will be guaranteed by the Chinese Government in return for advantageous freight rates on select classes of certain exportable products. Word was given out later, according to the Chinese press, that the Board of Communications had decided to establish a big steamship Company with forty steamers at a cost of fifty million dollars. The government was to be responsible for twenty million dollars and the people were expected to subscribe the rest of the amount.

More Steamers for Manila.—Messrs. Macleod and Company have been appointed agents of the new steamship service of the Ellerman Line and the first steamer of the new line to call there was the City of Norwich, arriving on February 15, and sailing for Marseilles and London via Cebu and Singapore on February 17. The Ellerman line has entered the U. K. Conference and will accept cargo on conference terms and conditions. The steamers will carry hemp and copra, but will take no passengers. A significant fact of conditions prevailing in the Philippines is that this new Manila-United Kingdom line of steamers is booked full far into the future.

A report to the Department of Commerce from Consul General George E. Anderson, Hongkong, states that the Osaka Shosen Kaisha, the Tacoma line of Japanese steamers, has announced that beginning with the new year the steamers of that company will call regularly at Manila on their outward and homeward voyage from Hongkong to Tacoma, Wash. That is, every other steamer leaving Tacoma will proceed to Manila on its way out and every other steamer leaving Hongkong will return by way of Manila. The *Seattle Maru*, leaving Tacoma January 5, via Yokohama and Kobe, made the first voyage via Manila to Hongkong of this new service. From Hongkong the first steamer was the *Panama Maru*, leaving February 6, which sailed from Manila for Tacoma via Kobe and Yokohama February 11. Seven steamers are in the new service.

Japan Cuts Down Subsidies.—At a recent cabinet council in Japan, the question of curtailing altogether 3,300,000 yen in the government shipping subsidies for 1915, was finally decided in the affirmative. The term of the subsidies granted to the Nippon Yusen Kaisha, the Osaka Shosen Kaisha, and the Toyo Kisen Kaisha thus expire with the new year. At the last ordinary session of the Imperial diet, a bill providing for the renewal of the subsidies was introduced, but failed to pass the legislature, owing mainly to the retirement of the Yamamoto cabinet. At the council, the communication authorities urged the importance of opening a tri-weekly Panama service, with eight steamers, each of 6,000 tons, and asked for a subsidy of 1,600,000 yen to a company ordered by the government to operate the new service. This proposal was, however, shelved, owing to the fear that the inauguration of the new route might seriously affect the Tacoma, Seattle, and San Francisco services now maintained by the above companies.

N. Y. K. Orders New Steamers.—It is reported that the Nippon Yusen Kaisha has ordered nine new cargo boats from the Kawasaki Dockyard of Kobe and the Mitsu Bishi Shipyard of Nagasaki, in order to cope with success with the changed conditions of the European freight market after the war. In other directions also preparations are being pushed on energetically by the company for new and redoubled activity after the war. Recently the company held a full conference of the board and decided to build seven cargo boats of 4,000 tons each and five passenger and cargo boats of 3,000 tons each, to be run on the coastwise and Asiatic trade routes. By this new arrangement the company may be enabled to enlarge and improve the service in the Eastern seas and in the South Seas after the war, when the decrease in the foreign shipping in these waters may cause a remarkable increase in the demands upon this country's shipping.

On the Calcutta route the company's effort to improve and enlarge the service is bearing fruit. Since the withdrawal of a rival company from the field the Nippon Yusen Kaisha, monopolising the trade, has done everything in its power to increase traffic facilities in those waters. Even when the Emden was ranging the seas trade was maintained, though somewhat erratically. Thanks to this tenacity of the company in the face of danger the German trade in those parts of India has been utterly upset and in its stead Japanese trade is steadily being built up. Glassware and matches, which were supplied by Germans before the war, are, for instance, now supplied by Japanese entirely.

Merger Again Rumored.—Negotiations for the union, which were started at the instance of the Japanese Communications authorities, have been resumed between the Nippon Yusen Kaisha and the Toyo Kisen Kaisha, to amalgamate the two lines. At the time when the previous negotiations were started the condition of the Toyo Kisen Kaisha was alleged to be anything but enviable, as the ratio of the receipts to working expenses was falling steadily at that time. This unfavourable result of business was attributed by the authorities to the fact that the company's boats were specially designed for passenger service and not for freight and the advisability of fusing the concern with the Nippon Yusen Kaisha was suggested by them. It is said that the reasons for the resumption of the negotiations are along the same lines.

Japan-Java Line.—The Japanese line of steamers which has been running from Japan to Java ports under a Government subsidy for the past two years has been formed into the South Sea Steamship Co. under the Japanese flag and with a capital of about $800,000.

Japan-South Seas Service.—A scheme of opening a steamship service between Japan and the newly occupied islands in the South Seas is maturing. The South Manchuria S.S. Co., Ltd., Dairen, is reported to have started a movement to open a triangular steamer service between Japan, Singapore, and the above islands, under Government subsidy. Failing to receive the desired Government assistance, the new route will be limited to between Singapore and the nearer South Sea Islands, such as Java and Borneo.

Harbin Maru in Service.—Early in March, the new O. S. K. steamer *Harbin Maru*, 5,169 tons, manned by Capt. S. Obsumi with a complement of 117 officers and crew, made her first entry into the port of Dairen, bringing 1,172 tons cargo and 156 passengers. The new liner was constructed by the Kawasaki Dockyard Co., Kobe, and is a model of luxury and comfort Her wireless telegraph apparatus is of the Communications Department system invented by Mr. Saeki, save for the switchboard, which is an American patent. The apparatus is fitted with Torikata Detectors, which enables her to communicate with a steamer at a distance of 1,500 miles under any weather conditions. The power of the apparatus is said to compare well with installations of the Atlantic liners.

New P. & O. Feeder.—The Peninsular and Oriental Ss. Co., is building a steamer of 1,000 tons exclusively for the local trade of the Malay Archipelago and to act as a feeder to the Company's main line. She will be known as the *Maia Hari* (Eye of Day) and will be seen in Siamese and nearby waters early in the spring.

New Steamer in India Trade.—The *Morvada*, a new first-class passenger steamer of the British-India Line, arrived at Karachi on its first voyage from London via Bombay,

early in this year. The vessel is intended for the Bombay and Karachi service in connection with the Peninsular and Oriental Line. It was built on the Tyne, and is 450 feet long, with 58 feet breadth, with gross tonnage 8,193 and net tonnage 5,119 Its average speed is 14 knots.

Japan and the Philippines.—The 4,000 odd Japanese now in Mindanao, the southernmost island of the Philippine Archipelago, have found it so profitable that plans are on foot for a wholesale colonization of that island. A hint is thrown out by the Foreign Office that having settled in the southern island, the Nipponese propose to sweep northward in a great colonization scheme. Following is a translation of the statement given out officially by the Foreign Office on February 24:

"The development of resources in the southern parts of the Philippine Islands, especially Mindanao Island, has made marked progress of late. Various industries have been started and are making fair headway. Inconvenient means of communication, particularly of shipping facilities, in those regions, has been a matter of great regret and the hope was expressed from time to time to make the N. Y. K. Australian liners call at Zamboanga, the principal town of Mindanao Island. The Philippine Government authorities were in favour of the suggested scheme in view of great benefit of the scheme to the development of insular industry and trade. The opening of a regular steamer service between Mindanao Island and other parts of the Philippines and elsewhere will greatly facilitate the transportation of labour emigrants greatly needed in the exploitation of the undeveloped region in the northern part of the island, in addition to benefiting the exportation of copra and hemp, principal staple products of the island.

"The Imperial Japanese Government some time ago caused Consul-General Tsunezo Sugimura at Manila, to make investigations into the industrial and commercial conditions of those regions with a view to opening new steamship service between the island and other places on the N. Y. K. Australian line. As the result of the investigation the Government ordered the N. Y. K. to let its Australian liners call at Zamboanga on their way to and from Sydney. The service was begun with the liner Nikko Maru, which entered the port of Mindanao on January 21st. The steamer, which was the first liner to make a call at the port, met with an enthusiastic ovation from both American officials and public and Japanese residents there. The Governor General of the Philippines writing to the Japanese Consul-General expressed his thanks as well as those of Americans and the Filipinos for the Consul-General's kind efforts in establishing the steamer service to the island, which has been so much coveted by the islanders.

"The Governor General further expressed his belief that the new enterprise would unmistakably contribute to promoting the interests alike of Americans and of Japanese."

In regard to the above it may be questioned whether the line will be such an advantage to any but the Japanese residents of Mindanao, since the United States shipping laws impose heavy penalties on passengers traveling under a foreign flag between two American ports such as Zamboanga and Manila, so that the only effect may be to deprive Manila of a considerable transshipment tonnage and the interisland steamers of the passengers and freight that will now go direct to Japan.

Japanese Shipping.—According to the investigation of the Department of Communications, the total number of steamships in Japan on December 1st, 1914, was 2,133 with a total tonnage of 1,577,025. The total of sailing vessels was 7,943 with a total tonnage of 513,244. Besides these, the vessels calculated in koku capacity were 1,345 with a total of 423,616 koku.

Japan's New Destroyers.—Torpedo destroyers which have been launched recently at various docks are as follows:—The Matsu and Kashiwa at the Mitsubishi Dock, February 15; the Raba, at the Yokesuka naval dock, February 15; Sakaki at the Saseho Naval Dock, February 18; the Kusunoki at the Kawasaki Dock, February 26th, the Ume at the same dock on March 5th, and the Katsura at the Kure naval dock on March 20. The launchings of the Koede and Kiri, not announced as yet, were expected to take place in April. The Urakode and Yekode, two destroyers, building in England, will be launched in June.

Several new vessels have been launched at the Mitsubishi dock at Nagasaki. The trial of the Toyooka Maru, 7,640 tons, took place early in February and she was turned over to the N. Y. K. on March 21. The Toyama Maru, sister vessel of the Toyooka Maru, was launched on March 20th. The Kawachi Maru, 9,700 tons, of the Osaka Shosen will be launched in May. Preparations are now making for the construction of the Hiuga, a battleship, and three N. Y. K. vessels of 7,500 tons, the contract for which recently was made.

MINES, MINERALS AND THE METAL TRADE

Hanyang Iron Works.—The Government expert sent to examine the Hanyang Iron Works, with reference to government ownership, says in his report that there are 40 foreign engineers and 8,050 Chinese laborers working in the Hanyang Iron Works. The plant can produce 15,000 tons of pig iron every month, steel rails to the amount of 7,000 tons, and practically unlimited steel plates and nails. The ground occupied by the works is upwards of 100,000 square feet. It has a capital of $20,000,000.

According to the Works Secretary's Annual report, the work at Hankow, Tayeh and Pinghsiang was carried on smoothly during the past year. With the exception of the destruction of the iron bridge at Liling, Hunan, owing to a sudden flood which caused a shortage of thirty thousand tons of coal being transported to Hanyang, there was no other misfortune. Owing to the lack of coke two furnaces had a reduced output of a thousand tons of iron. The output of pig for the past year is estimated at 135,000 tons, while steel reached a total of 98,536 tons. Nine hundred tons of bolts, etc,, and one thousand two hundred tons of fire bricks also were made.

At Pinghsiang Colliery, 560,000 tons of coal was produced, of which 165,000 tons was turned into coke. The Tayeh mine produced 480,000 tons of iron ore.

During the past year at the Hanyang works, a No. 4 blast furnace and a No. 7 steel furnace were constructed, while extensions were made in the steel plate factory, rail mill and fire brick factories.

At Tayeh a new iron mine has been purchased, and it is expected that in the coming year 700,000 tons of iron ore can be turned out. A new furnace will also be constructed at Yuanchiahu to the west of Shihuiyoo. At Pinghsiang new shafts will be opened and by April 640,000 tons of coal can be mined.

China's Coal Output.—According to the report of the Ministry of Agriculture and Commerce the total output of coal throughout the whole country last year amounts to 9,272,000 tons. The output of each province is as follows:

	Tons.
Manchuria	840,000
Hupeh	100,000
Chihli	2,160,000
Anhui	30,000
Shansi	2,500,000
Shantung	932,000
Hunan	300,000
Szechuan	800,000
Kiangsi	800,000
Honan	500,000
Shensi	50,000
Kwantung	50,000
Kwangsi	50,000
Yunnan	30,000
Total	9,272,000

Fushun Coal Export.—The Fushun coal export returns for the port of Dairen for the month of January last give a total of 45,612 tons comprising 45,512 tons shipped by steamers and the balance by junks, showing a decrease of 7,453 tons and 15,631 tons from the preceding month and the corresponding period of last year respectively. Returns for February give a total of 47,718 tons, comprising 47,696 tons shipped by steamers and the balance by junks, showing an increase of 2,064 over the preceding month but a decrease of 12,417 tons from the corresponding period of last year.

The principal ports of destination follow:—

	Tons.		Tons
Yokohama	3,500	Nanao	3,000
Osaka	5,700	Tokuyama	3,280
Fusan	3,320	Shanghai	7,986
Hongkong	4,000	Manila	4,850
Java	8,850	Moji	1,820

Lack only Capitalists.—The Peking-Hankow Railway has submitted the report under the instructions of the Central Government dealing with the mining enterprises along the whole line. The report recommended the Fong Shan Hsien Coal as being of superior quality. About 160 mines are within the district but there is lack of capitalists to organise Companies to replace the native method of operation by machinery. There are several big mining companies along the line, Pekin Syndicate, Lien Chen Mining Bureau, Chung Chow Mining Company, Pei Yang Government Mine. Twenty-three small companies have suspended their work in different districts.

Colliery Near Taonanfu.—A Chinese company was recently formed at Taonanfu under the title of Paofeng Colliery Co. with Mr. Tan-shao-chang, a mining expert, as President and Mr. Li-chih-chu, Manager. The colliery is located in the side of Heiting Hill near Taonanfu. The extent of the coal seam is not yet known, but the coal is found to be of good quality.

Iron Mines in Fengtien.—With reference to the question of the nationalisation of the iron mines in Fengtien, sometime ago a special delegate was sent to that province to investigate the number of such mines in that province. His report to the Government states that there are no fewer than 57 iron mines in Fengtien, nearly all of which yield abundant iron ores of excellent quality. The Government has decided to take steps to nationalise all these mines, with the exception of one at Penchihu, which is being worked.

Manchuria's Mineral Wealth.—The region between Penchihu and Chienchang on the Upper Taitzu abounds in mineral wealth of various kinds, such as coal, iron and sulphur. The colliery at Niuhsintai, 9 miles from Penchihu, has been in operation under joint Sino-Japanese management since last summer. Already a light rail line, 16 miles in length, is being operated between the colliery and Penchihu under the S. M. R. Co., management. Japanese prospectors, who made investigations on the ground last summer, were strongly impressed with the variety and immensity of the mineral resources between Niuhsintai and Chienchang and the existing light rail is to be extended up to Chienchang in course of time, the required capital to be furnished by the

Penchihu Colliery & Mining Co., to the extent of 70 per cent., the remainder being supplied by the Chinese. It is understood that in this particular enterprise the South Manchuria Railway Company is to act on behalf of the Penchihu Co. The matter is said to have been sanctioned by the Peking Government.

Hungshan Colliery.—Pumping work at Hungshan Colliery is progressing and mining of the first pit is to be started at the end of March. The daily output will be about 500 tons at the beginning but, as the mining equipments are completed, the annual output will be increased to 700-800,000 tons.

Chekiang Coal Mines.—In a statement to the Central Government, the Chekiang Government, completing its listing of coal mines, fixes the number of these at thirty-nine.

Gold Mine in Chienshan Hills.—Two Chinese merchants of Liaoyang recently struck a gold mine in Chienshan Hills near Tangkangtzu Hot Springs which are noted for their charming scenery. They propose to form a joint stock company for operating the mine. As a preliminary step they have applied to the Mine Superintendent's Office at Mukden for the preferential right to work the find.

Silver Mine in Kiangsi.—Reports from Kiangsi state that the gentry there are trying to raise capital amounting to $50,000,000 to develop a silver mine in Taihsin-hsien, which is called Tungkungshan. The mine covers an area of ten square miles, and is considered the richest mineral resource of Kiangsi. It was worked during the Tang dynasty.

Chuhsan Copper Mine.—Mr. Sung Wei-tsen, the manager of the copper mines in the Chuhsan district, has recently petitioned the civil governor, Mr. Tan, to grant the privilege of free exportation of ore to encourage the development of the mine.

Find Gold Ores.—The Chao Fu Company mining in Tayeh District, has submitted some gold ores which they have recently discovered in the Tayeh District, to the Mining Superintendent's office for official technical assaying.

Metals in Chekiang.—According to the report submitted by the Chekiang Province to the Board of Industry and Commerce there are thirty-five metallic mines in the Province.

Chinese Antimony.—A Chinese mining and smelting company has opened an office in New York for the sale of antimony in the United States. Through the New York office of the Bureau of Foreign and Domestic Commerce it was put in touch with a concern which has purchased $40,000 worth of its product.

Mining in Korea.—The Oriental Consolidated Mining Company (Korea) has declared a dividend of G. $0.50 per share, which is payable in New York.

Gumaos Gold Output.—According to the Philippine Exploration Co. of Manila the results of the work on the Gumaos property during February, was gold recovered, 1,139 ounces.

Philippine Gold in 1914.—The division of the Bureau of Science, in a preliminary estimate given out, places the value of the gold produced in the Philippine Islands during the year 1914 at 2,406,867.31 pesos. These figures are not final inasmuch as returns from the various mining companies are not yet all in, and it is possible that the final figures will vary slightly from the above total. The 1914 production is nearly 30 per cent. greater than the production for the year 1913, which was 1,736,724 pesos. A little more than half of the 1914 production is the result of lode mining, the balance having been produced by dredging. The estimated value of the silver produced in 1914 is 16,000 pesos. There is no mining of silver ores in the Philippines at present, the above production having been obtained from the mining of gold ores, or dredging of placer gold; these operations yield a little silver which occurs as an alloy with the gold.

Gold Discovered at Lanao, P. I.—Word has been brought to Zamboanga that Major Allen Smith, Philippine Scouts, and others have discovered gold bearing quartz at Lanao. The matter was kept quiet until the assay was made at Manila and a report has been received that it runs P27.00 to the ton. Every one in Lanao, it is said, has the gold fever and is staking out claims. This quartz is of a reddish color and was not known to contain gold until Major Smith took samples to Manila.

Tin Output in Malaysia.—According to telegraphic information received by the Malay States Information Agency in London, the exports of tin from Federated Malay States during the six months from July 1 to December 31, 1914, amounted to 24,140 tons as compared with 26,244 tons and 25,061 tons in the corresponding periods of 1913 and 1912, respectively. The total exports of tin for the year 1914 amounted to 49,042 tons as compared with 50,128 tons in the previous year and 48,250 tons in 1912.

Tongkah Harbour TinDredging.—The 1914 report states that the ground dredged during the year to Sept. 30 was 2,190,408 cubic yards, producing 1,126 tons of tin oxide, as against 3,336,180 cubic yards treated last year, producing 1,339 tons. The average yield this year was 1.147 lbs. per cubic yard, as against .90 lb. last year. The value of tin output net to the company, exclusive of royalty, was £108,052, an average of £95 19s. 2d. per ton of ore, which compares with £118 7s. 1d. per ton. The working account shows a credit of £48,253. The dredging costs amounted to £52,605, or 5.74d. per cubic yard (against 3.816d. last year), whilst other charges amounted to £7,192. The balance to credit of profit and loss at Sept. 30, 1914, was £73,476. After providing for payments made to the Government of Siam, depreciation of plant, and all charges incidental to working the concession and managing the company, profit for the year was £34,568. Four dividends, aggregating 35 per cent., or 7s. per share, have been paid, absorbing £52,500, and after deducting dividend tax there remained £54,232.

The output of the Tongkah Harbour Tin Dredging Co., Ltd., for January was 88 tons.

The output of the Deebook Tin Dredging Co., Ltd. for January was 522 piculs, 53,850 yards, in 538 hours.

The output of Rahman Hydraulic Tin Limited, during January was 600 piculs.

The output of the Rahman Tin Co., Ltd., in January, was 634 piculs: Mill ore Pls. 450.43; Tribute ore Pls. 183.34.

The estimated output in respect of the Menglembu Lode Syndicate, Limited, for the month of January was 250 piculs, approximate value $10,300.

Japan's Mineral Production.—According to official investigations Japan's mineral production for 1914 is as follows.

Gold	206,112	momme
Silver	3,676,509	„
Copper	9,440,409	kin
Iron	1,118,939	kwan
Kerosene	243,368	koku
Sulphur	8,217,465	kin

The only items which suffered any decrease are silver and iron, all other items having witnessed more or less important appreciation. The most prominent increase is in gold, which may be attributed to the increased activities of the Kuhara Mining Company and the Mitsui Mining Department in this line. The Kuhara Company carried on gold refining last year, buying ores from the different mines in the country. The working of a new mine in Kagoshima by the Mitsui Firm was an important factor in the gold product. For the appreciation in the yield of kerosene the much-talked-of gush at the Kurokawa well may be mentioned.

Japan's Coal Output.—In Japan more than 21,000,000 tons of coal were mined last year. Over 3,000,000 tons were used to coal foreign steamers. Cheap coal from China takes the place in Japan of the better qualities sold to foreigners. But in Kyushu coal stocks are seen to be accumulating lately, the stock at the principal depots reaching more than 1,000,000 tons, or three times the record of 1913.

Coal in Shantung.—Poshan Colliery is the only one worked by the Japanese military authorities in Shantung since the reopening of the Tsingtao-Tsinan Railway. It puts out about 70,000 pounds coal a day, which leaves little to spare for private customers. The price went up to silver yen 13.50 per ton until, with the opening of Tsingtao to merchantmen, Fushun coal began to be imported, causing the price to sober down to a more normal footing.

Coal at Liaoyang.—Near Liaoyang the Weimingshan coal can compete with Yentai coal. The two collieries are situated near one other and the former is mined by Chinese. Its output is inferior in quality to Yentai coal, but, the cost of production being very low, the Chinese underbid Yentai coal. The price of Yentai coal was reduced to 25 sen silver per 100 *kin* some time ago. This increased the sales total to 100 tons a day at Liaoyang alone at the expense of Weimingshan coal. Niuhsintai coal is in demand for heating purposes at 35 sen silver per 100 *kin*.

Formosan Coal and Copper.—The production of copper in Formosa for 1913 amounted to 1,547 metric tons valued at about £101,000. The total output of the mines was taken by Japan. The total output of coal during the same year was 319,370 tons valued at £123,200, giving an increase of 43,125 tons and £23,570 over preceding years.

Philippine Asphalt.—Since the announcement of a discovery of gilsonite in the Philippine Islands, the following data have been obtained:

The deposit is a few miles inland from the west coast of the island of Leyte, near the northern end of the island, between the towns of Villaba and Leyte. Large samples of this mineral have been sent to the Insular Bureau of Science, and several competent geologists have examined the deposit for private capital and have supplied the bureau with some of their data concerning the deposit. The occurrence of the mineral is described by a competent observer as a vein or bed outcropping with a thickness of several feet across the floor of a gully and apparently dipping into the hills on either side at an angle of 40°. The observer was unable to determine whether the material is a bedded deposit conforming to the dip and strike of the shale in which it occurs or whether it is a vein deposit cutting across the shale beds. Near the outcrop there is a petroleum seep from which a heavy oil escapes in small quantity.

A number of mineral claims have been located on the ground in the vicinity of the principal outcrop and some development work has been done by the Bryan-Landon Co., of Iloilo and Cebu. The observer is of the opinion that the amount mined is probably not in

excess of 30 tons. It is said that the inflow of ground water and the necessity for heavy timbering to support the shale roof seriously retard the exploitation of this deposit. The following analysis of a representative sample of the deposit is supplied by the Bureau of Science of the Philippine Islands: Character, solid and brittle; color, dull, brownish black; fracture, perfect conchoidal; hardness, 2; specific gravity, 1.026; penetration at 25° C., 6°; loss of weight at temperature of 163° C. for five hours, 3.28 per cent; total bitumen (soluble in CS_2), 93.79 per cent; organic insoluble, 1 per cent; mineral matter, 5.21 per cent; fixed carbon, 7.68 per cent. As stated, this material is classed as uintahite or gilsonite rather than asphalt proper. It is regarded as suitable for use as a protective coating or paint, as a binder in bitulithic paving materials, and as a roofing material. In quality it is considered equal to the gilsonite that sells for $10 to $20 per ton in the American market.

Sulphur in Japan.—At first the sulphur market appeared to be unaffected by the war; exports continued plentiful and prices firm, but the increased price of wheat has cut shipments to the Japanese market, hence there is less hold space available for sulphur as return cargo. The home demand is also somewhat in defect, and there are now 10,000 tons of sulphur congesting the market. About 8,000 tons of this are held in Hokkaido by the syndicate of which the Mitsui firm is at the head. Osaka merchants are now ready to sell the best Hokkaido sulphur at 30 yen $(14.94) per ton for cash payment. Unless there is an improvement the smaller sulphur mines will have to close down. Bar sulphur is in good demand for special purposes.

FINANCIAL NOTES

Six Millions for Improvements.—In the bill submitted by the Governor General to the Commission to release P6,000,000 of the gold standard, it is proposed to devote between two and three million pesos to purposes of the sugar central bill, P2,500,000 to the extension of credit of the Manila Railway company to enable it to continue its construction work, and P1,500,000 to the building of a new custom house on the reclaimed area of Manila.

The gold standard fund amounts to P18,500,000. Of that amount P8,500,000 have been loaned to the provinces and to the Manila Railway company, P7,500,000 are invested in the United States in the form of time deposits, P1,700,000 are held on current account in the United States for exchange transactions, and there are P800,000 in the insular treasury. It is now proposed to take some P6,000,000 of the P7,500,000 invested in the United States on time deposit, and apply that amount to the purposes already enumerated. Any fear that might be felt as to the stability of our currency as a result of this reduction of the gold standard fund is set at rest by assurances from Mr. Conant, responsible, with former Secretary Ide, for the present currency system. Authority has also been given by the secretary of war. It is felt now that the large fund originally thought necessary to guarantee the parity of Philippine currency is no longer needed, as the system on which it is based has demonstrated its soundness.

Tokyo Still Gloomy.—In spite of the reported tendency toward revival in the market, the Tokyo Clearing House report for the month of March presented as gloomy an aspect as ever, for the figures reported amounting to 324,313,000 *yen* in round figures show a falling-off by 116,784,000 *yen* from the record for the preceding month and by 20,328,000 *yen* as compared with the corresponding term of last year. The number of bills cleared also shows a falling-off of some magnitude.

Borrows at 8 Per Cent.—The Kawasaki Ship-building Company has decided to issue a loan of three million yen. Though the conditions of issue are now under consideration, it is reported that the interest will be 8 per cent, and redemption will be made in ten years, the first three years being unredeemed.

Hypothec Bank's New Issue.—The Hypothec Bank of Japan has issued a loan of Y4,000,000 bearing interest at 7 per cent; face value of the bonds is 50 yen, issued at par. The first plan of the bank was a loan of three million yen, but the amount was increased later in consideration of the good prospect shown in the markets in the country districts. One advantage of the new bond is that it will be accepted for security at the Bank of Japan.

Japan's Railway Loan —The necessity of repaying part of the railway loans in London has brought about a thorough change in the Government programme for financing the State Railways. In the programme drawn up some time ago 18,000,000 yen in round numbers was to be advanced to the Railway Board as a fund for repairing and constructing those lines designed for the coming fiscal year out of the outstanding national debt redemption fund, which amounts to 20,000,000 yen in round numbers. A half of this amount is now forced to go for the repayment of part of the London loans, thus compelling the Government either to alter the railway programme or to raise funds in some other way. It is learned that the Government will advance the remnant of the national debt redemption fund to the Railway Board, and the shortage to the amount of 8,100,000 yen will be made good from the Deposit Section funds, thus enabling the Railway Board to continue the works already set about. This new measure will result in further decreasing the balance held in the Treasury.

Drain on Japan's Treasury.—The Japanese Government, owing to a heavy drain on the National Treasury, decided to borrow from the Bank of Japan Y40,-50,000,000 in April.

Banks Offer Balance.—The Chinese Government, early in March, received an intimation from the Diplomatic Corps that the sum of £1,375,000 sterling, lying in the Quintuple Banks, being the balance of the amount of £2,000,000 set aside under the terms of the Reorganisation Loan, for payment and indemnity of foreign losses during the recent revolution, was at the disposal of the Chinese Government.

No More Foreign Loans.—The Ministry of Finance has notified the Provinces that, as the result of the overhauling of the Government taxes and other revenues, the income of the country is now sufficient to defray its expenses including the payment of foreign loans and indemnities. Hereafter Provincial Governments will not be allowed to contract even small foreign loans.

Internal Loan of 1915.—The Chinese Press states that the Government has decided to raise an Internal Loan for the fourth year of the Republic, namely 1915, for a total amount of $50,000,000 to be distributed over the provinces in the following scale:

Kwangtung, $5,000,000; Fukien, $3,500,000; Kiangsu, $3,000,000; Hupeh, $3,000,000; Szechuan, $3,000,000; Chihli, $2,800,000; Chekiang, $2,500,000; Shantung, $2,500,000; Shansi, $2,500,000; Shensi, $300,000; the other provinces are all under one million dollars each.

China's Revenue Increasing.—Chang Hu, Director of the Salt Administration, has stated to a representative of the "Peking Gazette" that China would have no financial difficulties at all, if the land tax and other financial sources were properly reformed. The land tax alone could yield 300 million Dollars a year to the Peking Government and China, he said, need not beg entrance at the foreign bourses with her hat in her hand.

The authorities estimate that the land-tax will yield the following actual revenue for the current year 1915, in the various provinces. Fengtien $940,256; Kirin $792.223; Heilungkiang $362.017; Chihli $4.668,755; The Metropolitan District $5,083; Kiangsu $8,061,445; Anhui $2,484,330: Shantung $6,677,421; Shansi $5,418,522: Honan $7,669,960; Shensi $2,855,607; Kansu $395,600; Sinchiang $234.833; Fukien $1,909.013; Chekiang $4.182.375; Kiangsi $4,382.557: Hupeh $2,149,173; Hunan $2.235.012; Szechuan $3,440,772: Szechuan Frontier Regions $96,428: Kuangtung $2,578.053; Kuangsi $704,712; Yunnan $1,263,031; Kueichow $336,245; Jehol $102,008; Chahar $15,207; Hsuiyuan $101,978; Total $65,171,216.

According to another estimate of the Central Government, the revenue of China for 1915 will consist of the following items:—

Land Tax. $78,000,000; Salt Gabelle, $76,000,000; Customs Receipts, $62,000,000; Title Deeds Examination Fees, $13,000,000; House Tax, $6,000,000; Consumption Tax, $15,000,000; Tax on Spirit and Tobacco, $15,000,000; Mining Tax, $2,000,000; Business Tax, $10,000,000: Income Tax, $5,000,000; Inheritance Tax, $2,000,000; Travelling Tax, $3,000,000; Tax on Convertible Notes, $3,000,000; Stamp Duty, $5,000,000; Tax on Monopoly of Weights and Measures, $2,000,000; Marriage License, $3,000,000; Minting Coins, $20,000,000; Government Works, $20,000,000; A total of $340,000,000.

Philippine Internal Revenue.—The report of Internal Revenue Collector Rafferty for 1914 shows a net increase of P375,178.43 in the amount of internal revenue collected over 1913, and an increase of P412,562.24 in the insular government's share of the revenues over the same period. This increase, however, resulted from over P400,000 extra being collected during the last ten days of the year 1914 from manufacturers seeking to anticipate the new and heavier tax in force on January 1, 1915. The report also shows an increase of P34,620.36 in the amount of revenue collected on total business done by merchants, manufacturers, etc., apparently showing that despite the crisis the business of the islands made some advance. The bureau of internal revenue, however, claims that the increase of the revenue from that source was due to a better system of collecting instituted by Collector Rafferty.

New Sugar Co Loan.—The Bank of Taiwan (Formosa) is reported to have accepted the Dai Nippon Sugar Refining Company's fresh loan to the amount of 2,500,000 yen, which the latter has planned to make for the readjustment of its debts.

PERSONAL

We regret to record the death at the age of 35 of Mr. Ernst Seidler, M.E., who was in charge of the machinery department of Messrs. Melchers & Company at Shanghai. Mr. Seidler had been in Shanghai for several years, and was extremely popular with all those with whom he had social or business relations.

Mr. F. C. Banham has been appointed Manager of the business of Messrs. Heywood and Clark, Ltd., in the Far East in succession to the late Mr. W. D. Graham.

Sir Richard Dane, Co-Chief Inspector of the Central Salt Administration of China recently returned from an extensive tour of Yunnan and Szechuan Provinces.

IMMIGRATION.

Population of Japan.—According to the latest census taken by the Government in connection with the compilation of the poll-book for the general election, the following numbers of general and voting population were found:—

Total population (Chosen, Karafuto and Taiwan not included)	55,125,272
Number of houses	7,734,340
Voters for Lower House	1,503,650
Voters for Local Assemblies ..	2,440,745

Japanese Abroad.—The Commercial Bureau of the Foreign Office has recently published statistics of Japanese residents in China, British India and other foreign countries, classified according to their domiciles and vocations. According to the statistics the number resident in foreign lands at the end of July 1914 was 358,711 persons (239,496 males and 119,215 females), the figure showing an increase of 117,449 over that of the corresponding time of the previous year. The figures are tabulated as follows:—

China (including Manchuria)	121,956
British India, Australia and other South Sea islands	6,661
The United States	171,581
Europe including Canada and European Russia	3,945

With regard to the occupations, farm labourers are in greatest number. Of 121,956 residents in China more than 6,000 are engaged in commercial and industrial lines.

Japanese in Shantung.—As a result of the sudden inrush of Japanese into Shantung immediately after the fall of Tsingtau, the Japanese in that province have now reached a significant number. The following is a list of the number of Japanese in various towns in Shantung compiled last month. Tsingtau, 5,270; Tsinanfu, 597; Fangtze, 34; Litsun, 2,098; Weihsien, 56; Taitungcheng, 994; Changtien, 45; Kiaohsien, 67; Haoshan, 325; Kaomi, 78; a total of 9,564.

Japanese in Manchuria.—Eliminating the garrison, the number of Japanese residents in Manchuria, which was over 40,000 in 1907, increased to above 73,000 at the end of 1914. But the rate of increase of the Japanese still compares poorly with that of the Chinese. As an illustration of this, the number of the Chinese, which was only 8,000 at the end of 1909, had increased to 41,000 at the end of last year.

According to a Japanese newspaper, a census taken at the end of last month by the Japanese authorities shows that there are 48,596 Japanese immigrants in the Kwantung Province, and 32,769 people in the adjacent territory along the Manchurian railway. This shows an increase of 3,000 immigrants against the census taken last year and 9,000 against that of the year before last. It is estimated that at the present rate of increase, Japan will have at the end of this year 100,000 colonists in Manchuria.

Japanese in Korea.—At the end of November last, the Japanese population in Chosen was 293,530, of which 158,284 were men and boys and 135,246 women and girls. This indicates an increase of 21,310 persons in one year.

S. M. Railway Colonists.—The Land Department of the S. M. R. Co. is satisfied with the results of its experiment in settling a number of Japanese agriculturists in the Railway Area at Tiehling. It is planning to introduce twenty new settlers with their families into the Railway Area at Tiehling and Kungchuling this year.

Fewer go to Singapore.—From January to November, 147,150 Chinese immigrants arrived in Singapore against 218,536 in 1913; and a yearly average 1904-13 of 192,685.

Heilungkiang Colonization.—According to reliable returns, Fengtien Province is said to contain about 27,000 paupers. The Chinese authorities intended to settle them upon waste land in Heilungkiang last year. Gov. Chang, who is moved by the alarming fatalities from the cold, has decided to carry out the colonization plan and has drawn S. Y60,000 from the Provincial treasury for the purpose. The transportation of indigent emigrants was begun on March 2nd.

On to the Philippines.—The *Tokyo Mainichi* is informed that as a result of investigation of conditions in the South Seas it was found that in time of the harvest of rubber Japanese laborers will be needed to do the work, although as laborers the cheap natives may be better to employ than the Japanese, in point of price. But the Japanese are the better workers. Then Japan should make preparations to send men to the South Sea Islands. Nay, Japan should not confine her efforts to the islands taken from Germany. The Philippines are only a step from Japan's Formosa. There are already 2,000 Japanese in the Philippines. More should be sent, as they are welcomed by the Americans there.

Those islands are welcoming the Japanese, as if they were of their own race. In olden times some Japanese in order to worship Christ left Japan and settled down in different parts of the Philippines. Their descendants are to be found there, to the number of 400,000. The name of the race of Bugis(?) may have come from the Japanese word Buke, which means a family of warriors. At any rate, emigration to the South Sea Islands should be encouraged. The Philippines are suitable for Japanese immigration. One man can gain 50 yen a month by raising hemp. Deducting living expenses, he should be able to save 30 yen a month. There are other things which can be raised besides hemp. There should be a systematic emigration started in Japan to these South Sea Islands.

Japan to Return Islands.—"It is officially announced on January 22 that the German Islands in the South-West Pacific seized by the Japanese are to be handed over to an Australian naval and military expedition in accordance with the promise made by Japan earlier in the war," says the *London and China Express*. "A force will be despatched by the Commonwealth, and will remain in occupation until the termination of the war, when the matter of the ultimate disposal of the Islands will be a question for consideration by the Allied Powers. It is too soon yet to discuss what will be the final destiny, but we may note the loyalty that Japan has displayed in the matter. It would have been quite legitimate for our Ally to have herself held the Islands until their eventual fate is determined at the close of the war."

Later reports are that a colony of Japanese already is in occupation of the more favorably situated islands, while two expeditions of scientists have been sent to investigate resources of this new Japanese territory.

Manila's Population.—The annual report of the Director of Health at Manila states that, contrary to general opinion, the number of Americans increased during the past year in Manila from 4,174 to 5,474, a gain of 1,300.

The number of Spaniards also increased by over 1,000. The census of Manila shows an increase of 32,534 over the year 1910, the city now containing a population of 266,943, divided as to nationality as follows:—Americans, 5,474; Filipinos, 236,946; Spaniards, 4,406; Other Europeans, 1,506; Chinese, 16,657; Other nationalities, 1,960.

PETROLEUM

Japanese Petroleum Production.—According to consular reports, the total output of petroleum in Niigata Prefecture during the first half of last year amounted to 882,962 koku (33,958,719 gallons), an increase of 81,373 koku (3,129,606 gallons) on the figures for the corresponding months last year.

The petroleum industry in Japan is almost entirely in the hands of two companies, the Nippon and the Hoden. The former was promoted at Amase, Niigata Prefecture, in 1888, with $55,000 capital, which has been increased to $5,000,000. The latter was formed at Nagaoka in 1893, with $7,500 capital, which has been increased to $7,500,000. Japan's daily output of oil was about 5,000 koku (192,300 gallons), 90 per cent. of which was produced by the two companies. The Nippon Petroleum Company's Kurokawa well, however, has recently changed the whole situation, its daily capacity of 10,000 koku (384,600 gallons) thus greatly increasing Japan's output.

This increase has not been an unmixed blessing since the sale of lighting oil has fallen off steadily as the consumption of gas and electricity for lighting purposes has increased. The yield of kerosene in this country has been on the steady increase as the result of employing rotary borers at the different oil wells in the latter years. In the past year, for instance, the whole yield reached 2,400,000 koku, a gain by more than 600,000 koku on the previous year. The consumption on the other hand fell off to an unproportionately large extent. Therefore, the stock in hand has been accumulated to a surprising degree.

Shell Company Holdings.—The Shell Transport and Trading Company has reported that the products owned or controlled by their associated companies in 1914 amounted to: Dutch Indies 1,539,000 tons, Sarawak 65,000 tons, Egypt 103,000 tons, Russia 1,526,000 tons, Roumania 166,000 tons, United States 786,000 tons, and Mexico 301,000 tons, a total of 4,786,000 tons.

The Anglo-Saxon Petroleum Co.—The following information of the progress of the Company at Miri is from the Anglo-Saxon Petroleum General Manager's report for 1914:—

The "Anglo-Saxon" staff comprises 30 Europeans, 10 Chinese and other clerks, and 1 Hospital dresser. The total muster roll on December 31st, 1914, was 900, as compared with 764 on December 31st, 1913. Of the six wells drilling on January 1st, 1914, five have since been brought into production. During 1914 sixteen new wells have been begun, and 14 are now producing. The total production of crude oil during the year was 64,519.77 tons (compared with 26,067 tons for the year 1913) and of this 58,328.77 tons have been shipped. The machine shop and a large smith's shop, also a saw-mill, have recently been completed. Additional storage tanks—two of 500 tons and one of 200 tons—have been completed, and a further 4,000 ton tank is in hand.

The most conspicuous achievement during the year was the laying of 10,000 feet of 6 inch pipeline on the sea-bottom to reach a depth of 18 feet at low-water, enabling us to load directly into tank vessels of 2,500 tons capacity, and entirely avoiding the necessity for towing tanker lighters over the bar. The preliminary work involved the making of some 4,000 feet of embankment through swamp land on which to lay runways. The final stage, that of hauling the line out to sea, was undertaken in September by Capt. H. Westers, the "Anglo-Saxon" Marine Superintendent for Singapore. The first vessel to load from the sealine was the M. V. Vulcanus, on September 12.

High Rate on Gasoline.—The Philippine Board of Public Utilities Commissioners, in a case just decided between the Standard Oil Co. and the Philippine Railway Co., has decided that the railroad is justified in charging a higher freight rate on gasoline than on petroleum. The Standard Oil Co. brought a complaint to the board based upon a charge of $0.110 per case for gasoline between Cebu and Carcar as against a charge of $0.0388 for petroleum.

COMPANIES

Profits of Japanese Companies.—In order to have the knowledge of the general situation of business carried on by our companies, says the *Japan Financial and Economic Monthly*, it is necessary to see what is the average profit of the business and how it is allotted to the dividend, redemption fund, reserve fund, the amount transferred to the succeeding term, bonus, etc. Before dealing with the result of our investigation we must state that we have taken up exclusively joint stock companies engaged in all forms of business except insurance and banking. First, because reports of all the forms of companies other than joint stock companies are not announced and, second, because the same method of investigation can not be applied to insurance and banking which are different from other kinds of business. Regarding the business terms, one year is a business term with some companies, while with most of our companies half a year is one term of business. For convenience in the way of our investigation we presupposed that every company has two business terms a year, and included all the accounts settled from March to the end of August in the settled accounts for the first half of the year and all the accounts settled from September to the end of February in the settled accounts for the second half of the year. As to the way of the calculation of the profit we have employed the method of subtracting the total outlay minus various forms of reserve funds, various redemption funds, bonus and dividend from the total income. Regarding the number of companies, we have chosen more than four scores of companies throughout the entire land. Below we append the accounts of profits from the first half of 1910 to the first half of 1914, except the two years of 1911 and 1912.

From the above table we can point out four principal features of the business of our companies. Firstly the profit is yearly increasing on the whole. As an illustration of this the average of the profit of a company which was from 300,000 to over 450,000 *yen* in 1910 and 1911 increased to a matter of 500,000 *yen* in 1912. The first half of last year witnessed the business depression owing to the inactivity of the financial world. Still the profit exceeded 500,000 *yen*. Though materials for the calculation of the profit for the second half of the year have not as yet been available the profit was probably smaller than 500,000 *yen*. But it was not apparently below a matter of 300,000 *yen*. At any rate the average of the annual profit of a company has come to reach over 1,000,000 *yen*. This may be partly due to the fact that the companies we have chosen are all of a comparatively large scale. But it must chiefly speak of the result of the progress of the business of companies in general. The British magazine "Economist" has continued a long time since to put on record the result of investigation of this sort. According to the statement of accounts for a year ending last June which appeared in this magazine the average profit of over 900 companies is put at about 800,000 *yen*. The average of the profit of the Japanese companies of the similar number will certainly show a far smaller proportion. At any rate, there is no doubt that the business of our companies is by degrees assuming a great dimension. In the second place, the profit has not been increasing in proportion to the increase of the capital invested. As an illustration of this, the average profit of a company for the first half of 1910 which stood at 384,000 *yen* increased to 507,000 *yen* in the first half of last year. In spite of such a great increase in the profit the proportion of the profit to the paid up capital remained unchanged, showing 8 3/5 per cent., that is 17 1/5 per cent. per annum. Thirdly the proportion of the profit to the paid up capital well speaks of the state of the financial world. The proportion which dropped off to 8 3/5 per cent in 1910 (first half of the year) increased to 9 3/10 per cent in 1911. It again declined later. But since the first half of 1912 it began to increase, reaching 9 9/10 per cent in the first half of 1913. In the first half of 1914, it again dropped off to 8 3/5 per cent. as stated above. This rise and fall of the proportion can well be said to be barometric telling the state of the financial world. Lastly the proportion of the profit to the paid up capital, though not steady, is very high on the whole. According to the same investigation of the "Economist" referred to above the proportion of the profit of British Companies to the paid up capital is put at 11½ per cent. per annum, whereas the proportion of Japanese companies is from 6 4/5 to 9 9/10 per cent. for the half year term, that is from 3 3/5 to 17 1/5 per cent. per annum. With a great financial depression for the first half of the year, last year witnessed the proportion reaching as much as 17 1/5 per cent. The situation amply speaks of the fact that the business of our companies is destined to more and more develope. The result of the investigation classified according to forms of business are tabulated as follows:—

	1910		1913		1914
	1st Half	Last Half	1st Half	Last Half	1st Half
No. of Companies	66	65	73	72	75
Capital (*yen*)	284,930,194	290,971,784	382,775,257	401,518,027	441,215,159
Profit (*yen*)	25,393,646	20,714,633	37,962,870	39,077,996	38,079,296
Rate of Profit	86%	68%	99%	94%	86%
Average Profit of a Company (*yen*)	384,752	318,687	520,039	542,750	507,724

		1910		1913		1914
		1st Half	Last Half	1st Half	Last Half	1st Half
Spinning	No. of Cos.	10	10	10	10	10
	Capital (*yen*).	32,078,125	32,206,219	38,045,065	48,301,480	42,231,630
	Profit (*yen*).	3,508,227	3,499,539	7,872,489	9,819,218	7,149,812
	Rate of Profit	10.9%	10.9%	20.7%	20.3%	16.9%
Weaving	"	4	4	4	4	4
	"	5,250,000	4,599,700	7,725,500	7,250,000	7,250,000
	"	251,487	† 178,929	801,317	557,570	† 108,206
	"	4.8%	—	10.4%	7.2%	—
Hemp Manft.	"	1	1	1	1	1
	"	4,800,000	4,800,000	4,800,000	4,800,000	4,800,000
	"	321,677	316,433	433,656	431,590	432,724
	"	6.7%	6.6%	8.9%	9.0%	7.7%
Paper Manft.	"	3	3	2	3	3
	"	12,500,000	13,100,000	6,900,000	13,290,670	14,706,900
	"	371,392	402,573	62,180	1,191,954	1,242,262
	"	3.0%	3.1%	8.9%	9.0%	8.4%
Mining	"	6	6	5	6	6
	"	14,699,992	25,819,864	28,900,000	29,250,000	30,087,500
	"	1,982,508	1,609,922	3,705,216	4,060,898	3,336,908
	"	8.0%	6.2%	12.8%	13.9%	11.1%
Brewery...	"	3	3	3	3	4
	"	11,526,340	11,528,410	12,467,420	12,468,122	12,968,157
	"	740,432	796,128	1,086,559	1,282,492	1,129,106
	"	6.4%	6.9%	8.9%	10.3%	8.7%
Manure	"	3	3	3	2	3
	"	4,775,000	6,458,653	8,450,000	8,937,500	10,016,575
	"	313,657	167,588	740,330	674,429	763,880
	"	6.8%	2.7%	8.8%	7.5%	7.6%
Porcelain and Earthen Wares	"	1	1	4	4	4
	"	720,000	720,000	4,140,000	4,390,000	4,265,000
	"	† 25,394	22,246	409,043	345,341	368,854
	"	—	3.1%	9.9%	7.9%	8.6%
Railway	"	2	3	2	2	2
	"	9,285,000	11,777,240	6,225,000	6,586,000	6,716,435
	"	374,738	536,470	308,503	323,877	320,960
	"	4.0%	4.6%	5.0%	3.9%	4.8%
Electric Railway...	"	5	5	5	5	5
	"	11,141.195	19,004,122	25,390,717	25,264,555	25,264,900
	"	600,424	692,790	904,192	1,212,973	1,149,554
	"	5.4%	3.6%	4.6%	4.8%	4.9%
Shipbuilding and Machine Manft...	"	7	7	8	8	8
	"	62,762,500	64,788,500	67,619,850	68,270,000	68,450,000
	"	5,874,326	6,144,792	9,498,551	9,611,787	8,688,924
	"	9.4%	9.5%	14.5%	14.1%	12.7%
Electric	"	6	6	6	6	6
	"	37,425,000	39,635,000	74,713,480	85,326,825	97,228,835
	"	2,822,815	2,991,400	4,557,774	4,684,200	4,877,179
	"	7.5%	7.5%	6.1%	5.5%	5.0%
Gas	"	3	3	3	3	3
	"	19,474,750	24,091,850	36,512,500	40,535,150	44,737,500
	"	1,397,574	1,374,691	2,252,293	2,057,513	2,114,040
	"	7.2%	5.7%	6.2%	5.1%	4.7%
Exchange	"	4	4	4	4	4
	"	17,350,000	17,700,000	18,450,000	18,850,000	18,850,000
	"	1,453,789	1,273,947	1,111,746	991,277	993,039
	"	8.4%	7.2%	6.0%	5.1%	5.2%
Warehouse	"	2	2	2	2	1
	"	3,298,000	3,298,000	1,878,000	3,748,000	2,000,000
	"	90,342	57,884	68,925	126,994	115,877
	"	2.7%	1.5%	3.7%	3.4%	5.7%

Sugar Manft		5	1	5	2	5
	„	36,769,292	9,067,372	38,543,025	20,018,250	46,425,000
	„	5,211,595	911,877	3,428,278	1,476,994	5,239,429
	„	19.5%	10.1%	08.9%	07.4%	11.0%
Miscellaneous	„	1	3	6	7	6
	„	1,075,000	1,842,500	2,015,000	3,786,475	3,946,252
	„	104,055	86,272	122,809	228,879	264,947
	„	9.7%	4.7%	6.2%	6.0%	6.7%

(† denotes loss.)

Spece does not permit us to dwell at length upon the details of the figures given above, so let us point out a few important points. In the first place, of various forms of business spinning industry shows the greatest profit, ranging between over 20 and 50 per cent per annum. Next comes, shipping shipbuilding and manufacture of machinery. Each of these industries has showed a profit not less than 20 per cent. since 1911. A great profit shown by shipping and shipbuilding is largely due to the fact that most of the companies are either directly or indirectly under the protection of the Government. Mining has also shown a large profit for the last two years. This is chiefly due to an activity in oil and coal industry. Sugar industry shows also a great profit. But this is attributable to the fact that many of the sugar companies settle accounts at the end of the year instead of the half year. If they settle accounts semiannually their profit must be found even less than the average profit of all companies.

MANUFACTURES

Siamese Hat Trade.—A review of Siam's trade in foreign hats and caps during the half decade ended March 31, 1914, shows a steady demand for these articles of clothing for each year, the customs figures giving the following results: $177,269 for 1909-10, $173,921 for 1910-11, $200,054 for 1911-12, $239,320 for 1912-13, and $255,555 for 1913-14. The United Kingdom and dependencies led in these imports with $120,515 worth for 1913-14 (Great Britain, $45,005; Singapore, $50,221; Hongkong, $22,251; other, $3,038); and during the same period Italy supplied $64,201 worth; Japan, $34,584; Germany, $14,959; China, $9,612; and France, $7,991.

The share of the United States remains as yet insignificant, amounting to $542 for 1913 and $27 for 1913-14. The import duty is 3 per cent ad valorem.

Explosives in India.—Practically all the commercial explosives used in India come from Glasgow, Scotland. The use of explosives for preparing the soil for agricultural purposes is very little practiced as yet, but a fair amount are used in connection with mining and railway and irrigation construction works. The Department of Commercial Intelligence of the India Government has furnished the following statistics as to the quantity of explosives imported by sea into British India for the year 1913-14 in hundredweights of 112 pounds, values in U. S. currency. Blasting fuse 3,155, $60,025; Blasting gelatine 6,060, $202,350; Dynamite 3,624. $105,763; Gelatine dynamite 1,581, $46,510; Others 3,772, $110,380.

Oilcloth in Siam.—While the demand for oilcloth, floor cloth, etc., in Siam has been fairly steady for the last half decade, with the exception of 1910—11, imports at Bangkok during the fiscal year 1913—14 were less than in 1909—10, but exceeded the average for the five-year period by more than $3,000. The total imports of these floor coverings in 1913—14 were valued at $41,379. Hitherto the main sources of supply have been the United Kingdom and dependencies, Germany, and Belgium, which countries furnished $36,282, $889, and $1,790 worth, respectively, in the fiscal year ended March 31, 1914. The share of United States was $470 for 1913 and $2,226 for 1914.

Japanese Iron Market.—The iron market has long been in a depressed condition owing to the decrease in demand. But inasmuch as the stock in Tokyo and Yokohama has now diminished in quantity, there being scarcely over 2,000 tons in Tokyo and 1,000 tons in Yokohama, the dealers have had to raise the price. The strong tone in the original market is another reason for the slow but steady improvement of the market here, and especially is this tendency marked in galvanized-iron sheets, the quotation of which has, according to a latest foreign dispatch, risen by 1 shilling (24.3 cents). The growing demand in the home market as witnessed at present is, however, not for the immediate consumption, but because the retailers have come to purchase speculatively in anticipation of the scarcity of stock in the not far-distant future.

The present quotations for iron bars are: $2.14 per 100 pounds of round ¾-inch bars, $1.99 for ⅞-inch bars, $1.83 for ¾-inch square bars, and $1.80 for ⅞-inch square bars. As to the galvanized-iron sheets, the quotations range between $0.53, and $0.52, according to quality. The iron nails are also increasing in demand, the present quotations being 9.30 yen per cask of 100 kin of ¾-inch ($3.49 per 100 pounds) homemade nails, and 9.40 yen ($3.52 per 100 pounds) for ⅞-inch nails, with every prospect of a further advance in future.

It is also reported that the Kamaichi and Edamitsu iron foundries are having a very busy time in the execution of orders from the Russian Government for the supply of various kinds of iron goods. It is generally believed that the great boom in the metal-goods market immediately following the outbreak of war, which had been rather abnormal, resulted in a reactionary depression toward the end of last year, but that the market should steadily improve hereafter.

Ham Factory at Dairen.—A Japanese resident in Dairen has been experimenting upon the manufacture of ham for a few years and often this industry, and recently paid a round of visits to the hog farms and ham factories at Tokyo, Yokohama, Kamakura, Osaka, Kobe, Kyoto, etc. The outputs of his experimental manufacture are being put on the market.

The total consumption of ham ranges from Y20,000 to Y30,000, of which the Yamato Hotel alone buys about Y 5,000 worth Hitherto 80 per cent. of the purchases of the Hotel has been imported from England and the remainder direct from Kamakura, Japan.

New Meat Works.—The works proposed to be erected on Brisbane River by the Morris Beef Co. (Ltd.), on 420 acres recently purchased, will make six meat works and one bacon factory within a radius of a couple of miles, and all within 4 or 5 miles of the city of Brisbane. The companies are the largest in Australia, including the Australian Meat Export Co. (Swift's); Borthwick's, Queensland Meat Export Co.; Birt & Co.; and Queensport Works.

Big Lumber Contract.—The Kolambugan Lumber company, of which Findlay, Richardson and company are proprietors, has been awarded the P100,000 contract to furnish the army in the Philippines with 2,430,495 board feet of lumber, to come from the white lauan and almon forests of Mindanao. The award is regarded with great satisfaction by the lumber men of the Philippines as it is the first time Philippine woods have ousted Oregon pine in a large army contract.

TELEPHONES, TELEGRAPHS, ETC.

Hankow Telephone Concession:—The Chinese Telegraph Administration wish to extend their telephone service operating in the City and to Hanyang and Wuchang into the Concession. Meanwhile it is recorded the Russian Municipality are endeavouring to form a Municipal Telephone service. Enquiries are to be made regarding what progress if any has been made by the Russian Municipality, and the China Telegraph Administration is to be invited to give the fullest details of their proposed scheme.

PUBLIC WORKS

Naguilian Mountain Road.—The Philippine Commission, which has charge of appropriations for the Mountain Province, has voted $30,000 for continuing construction work on the Naguilian Road, the highway that is to take the place of the old Benguet Road between Baguio and the Mountain Province. The present rainy season has done considerable additional damage to the Benguet Road, and as it is not the policy of the Government to keep the latter open after the Naguilian Road is opened for traffic, it is proposed to hasten work on the latter. Construction of this highway is progressing rapidly.

Chihli Naval Base.—The Chiang Chun of Fengtien has despatched a petition asking the Government to raise money for the construction of roads and buildings and harbour in the Lien Hua Island which is situated in Chinghsien, so that it can be early opened to foreign trade. A carefully-drawn map of the island is attached to his petition. We learn that the Minister of Navy desires to make the island a naval base in view of the fact that no suitable location for the harbouring of warships in the North has been found. A telegram has been sent to the Chiang Chun expressing the desire of the Admiralty to convert the island into a naval base. Naval officials will be appointed immediately to proceed there for inspection, and if their report is favourable, the construction of the harbour in the Lien Hua Island will soon begin.

Manila, Garbage Expert.—It is proposed by the city of Manila to bring a garbage expert from the United States to look after the disposition of the city's refuse. A local company has built an extensive plant and installed machinery to handle the city's garbage and to utilize it for manufacturing purposes so far as possible. Some time ago this company obtained a contract from the city for handling the garbage but was unable to do the work satisfactorily owing to some deficiency in equipment or management. The city subsequently canceled cancelled the contract and continued to handle its own garbage. It is now proposed to bring over an expert in handling garbage and, if deemed advisable, purchase the plant of the local company. Heretofore garbage has been used largely for filling in outlying low areas, but now the question of the city's health has become involved in the disposition of the garbage.

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Vulcan Iron Works.

Reinforced Concrete Construction
Shanghai Dock & Engineering Co., Ltd.
U. S. Steel Products Co.

Rheostats
General Electric Co.

Road Rollers
W. F. Stevenson and Co.

Roofing Materials
W. H. Anderson & Co.
Norton & Harrison.

Rope Manufacturers
Johnson-Pickett Rope Co.
U. S. Steel Products Co.
Ynchausti & Co.
Shewan, Tomes & Co.

Rotary Converters
General Electric Co.
Westinghouse E. & M. Co.

Rotary Dryers
Lehigh Car, Wheel and Axle Wks.

Safes
W. H. Anderson & Co.
Mustard & Co.
Shewan, Tomes & Co.

Saw Mill Machinery
Andersen, Meyer and Co.

Scales
W. & T. Avery, Ltd.

Sewer Pipe & Tile
W. H. Anderson & Co.

Sheet Steel
U. S. Steel Products Co.

Shipping Agents
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.

Shipbuilding and Repairs
Fiat-san Giorgio Ltd.
Tsingtauer Werft
Hongkong & Whampoa Dock Co., Ltd.
Mitsu Bishi Dock and Engineering Works
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited

Ship-Chandlery
Ynchausti & Co.

Steamship Companies
Cia. Transatlantica.
Robert Dollar Company.
Pacific Mail S. S. Co.
Ynchausti & Co.
Toyo Kisen Kaisha.

Steam Hoists
Lidgerwood Mfg. Co.

Steam Kettles
Royles Ltd.

Steam Turbines
Dick, Kerr & Co. Ltd.
General Electric Co.
Westinghouse E. & M, Co.

Steel Manufacturers
United States Steel Products Export Co.

Steel Works
Bohler Bros. & Co., Ltd.
U. S. Steel Products Co.

Stokers
Babcock & Wilcox Ltd.

Stretchers
Simmons Mfg. Co.

Structural Steel
Bohler Bros. & Co.
Shanghai Dock & Engineering Co., Ltd.
U. S. Steel Products Co.

Sugar Machinery
A. F. Craig & Co.

Superheaters
Babcock & Wilcox Ltd.
Schmidt Superheating Co.

Tanks
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.
U. S. Steel Products Co.
A. F. Craig & Co.

Telephones
Anderson, Meyer & Co.
Kellogg Switchboard & Supply Co.
The Western Electric Co.
Westinghouse E. & M. Co.

Textile Machinery
A. F. Craig & Co.

Tiles and Bricks
Green Island Cement Co., Ltd.
Kailan Mining Administration.

Tin Plates
U. S. Steel Products Co.

Tobacco Dealers
British-American Tobacco Co., Ltd.
Cia. General de Tabacos
Olsen & Co., Walter E.

Tools
American Tool Works Co.
Shanghai Machine Co.
Shanghai Dock & Engineering Co., Ltd.

Tool Steel
Bohler Bros. & Co. Ltd.
U. S. Steel Products Co.

Towers Cooling
Worthington Pump Co., Ltd.

Tramcars
Hurst, Nelson & Co. Ltd.

Tramway Equipment
Dick Kerr & Co. Ltd.
Westinghouse E. & M. Co.

Tramway Supplies and Specialties
Anger Mfg. & Supply Co., Ltd.

Tramway Tyres
Anger Mfg. & Supply Co., Ltd.

Trucks
Commercial Car Co.

Tube Mills
Edgar Allen & Co.

Tungsten Steel
Bohler Bros. & Co., Ltd.

Turbine Pumps
Worthington Pump Co., Ltd.

Turbo-Blowers
Westinghouse E. & M. Co.

Turret Lathes
Jones and Lamson Mchy. Co.

Valves
Shewan, Tomes & Co.

Vanadium Steel
U. S. Steel Products Co.

Vegetable Oil Plants.
A. F. Craig & Co.

Ventilating Apparatus
Shewan, Tomes & Co.

Water Softeners
Babcock & Wilcox Ltd.

Waterworks Equipment
Edgar Allen & Co. Ltd.
Worthington Pump Co,

Weaving Machinery
Shewan, Tomes & Co.

Weighing Machines
W. & T. Avery, Ltd.

Windmill
Fairbanks, Morse & Co.

Wireless Telegraph Apparatus

Wire Nails
U. S. Steel Products Co.

Wire Rope and Cables
Bohler Bros. & Co., Ltd.
U. S. Steel Products Co.

Wood Working Machinery
American Tool Works Co.
Defiance Machine Works
Shanghai Dock & Engineering Co., Ltd.

Wrenches
Trimont Mfg. Co.